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ABSTRACT

This annual statistical report describes the national condition of education and the conditions in the larger society that may affect education. Statistical data are presented on issues concerning educational institutions, students, and personnel. The first section of this report describes trends and developments affecting education at all levels. Chapter 1 explores the student population of the 1980s, the current status of science education, and changes in educational expenditures. Chapter 2 covers such facets of elementary and secondary education as enrollment trends, staffing trends, teacher status, and student performance and testing. Chapter 3 examines the enrollment, staffing, and outcomes of higher education. In the second section of the report, special topics have been selected for closer analysis. Chapter 4 looks at the financing of higher education; chapter 5 examines preprimary education, including enrollment, student characteristics, facilities, costs, and effects; chapter 6 discusses adult and occupational education; and chapter 7 analyzes changes in resource disparity in elementary and secondary education both between and within states. (Author/PGD)

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The Condition of Education

1980 Edition

U.S. DEPARTMENT OF HEALTH,
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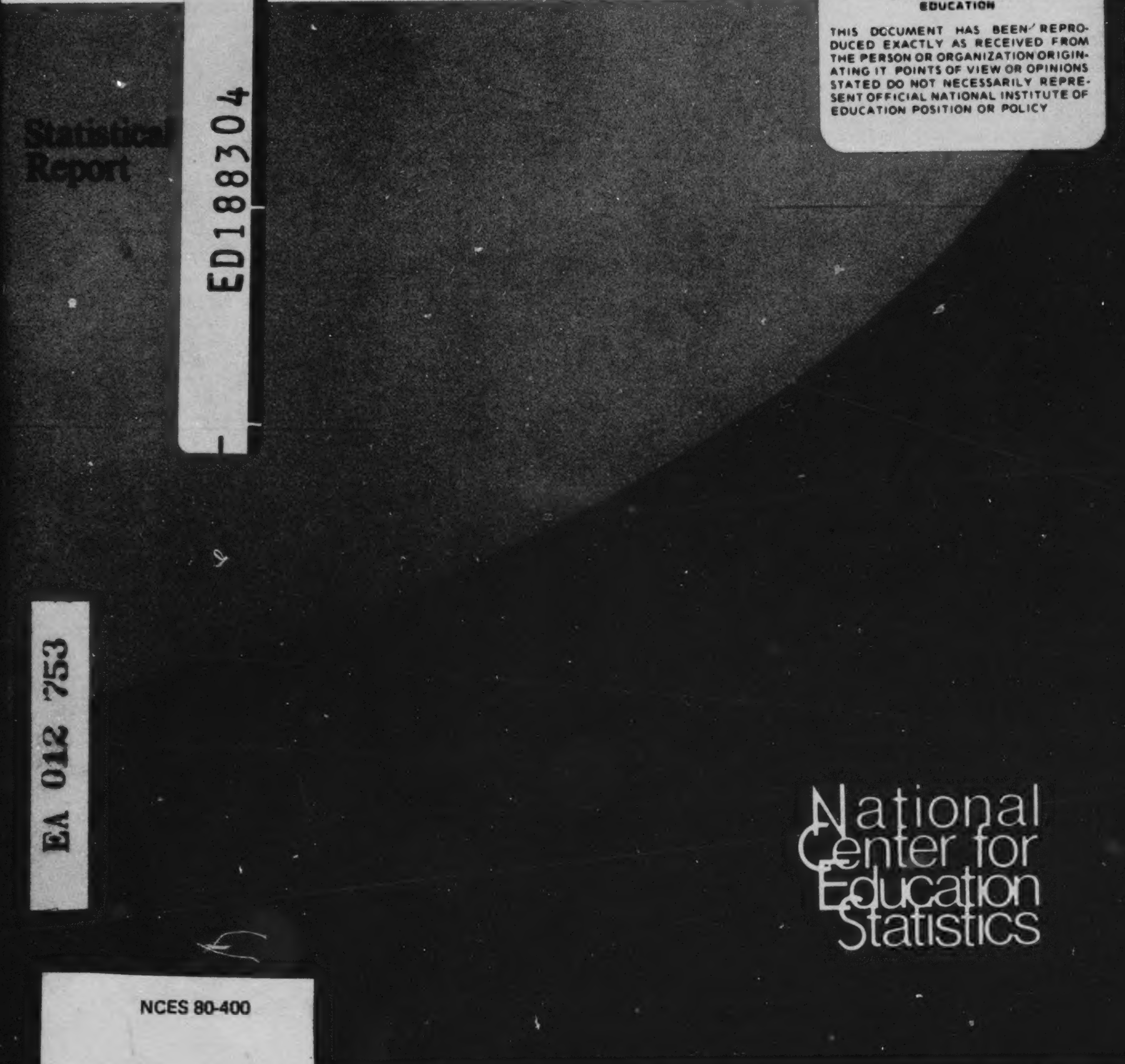

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National
Center for
Education
Statistics

NCES 80-400

The Context of Education in the 1980's

- Population changes are expected to affect enrollments at various educational levels; increases in preprimary and elementary age groups and decreases in secondary and traditional postsecondary age groups are expected throughout the 1980's (entry 1.1).
- Indochinese refugee children entering elementary/secondary schools since 1977 numbered more than 67,000 by January, 1980 (entry 1.3).
- Current expenditures of educational institutions increased throughout the 1970's, even when adjusted for inflation; these are projected to stabilize during the first half of the next decade and then begin to increase (entry 1.14).
- State and local expenditures for education-related construction were lower in 1978 than in any year since 1952 (entry 1.17).
- An upturn in preprimary enrollment is expected beginning in 1980 (entry 5.1).

Elementary and Secondary Education

- Enrollment declines, mainly in the public sector, are anticipated through 1984 in the lower grades and through 1989 in the upper grades (entry 2.1).
- Schools with high concentrations of students from low-income families and low achievers are the most likely to participate in compensatory education programs (entries 2.5 and 2.6).
- Federally funded special education reached about 4 million handicapped persons or 8 percent of the school-age population in 1978 (entry 2.7).
- The supply of new teacher graduates is expected to exceed the demand for additional teachers, at least until the mid-1980's (entry 2.9).
- Average daily attendance rates were below the National average in 14 of the 17 largest school districts reporting in 1978–79 (entry 2.14).
- Only black 9-year-olds significantly improved their scores on the mathematics assessment measuring change between 1972–73 and 1977–78 (entry 2.16).
- Nearly half of the States with competency testing plan to test for high school graduation, many beginning in the early 1980's. High school seniors' approval of standardized testing for graduation increased from 39 to 51 percent between 1977 and 1979 (entries 2.19 and 2.20).
- Low-income children with preschool experience were less likely to fall behind in school than those with no preschooling (entry 5.17).
- Expenditures per pupil of public school systems were found to be highly correlated with States' personal income per capita; expenditures per pupil among States ranged between $757 and $2,496 (entries 7.3 and 7.5).

Postsecondary Education

- Higher education enrollment increased between 1970 and 1975, but the fluctuations in enrollment during the latter part of the decade are expected to herald an eventual decline starting in the early 1980's (entry 3.1).
- Most of the increase in higher education enrollment of both traditional college-age and older groups can be attributed to increased participation of women (entry 3.2).
- Hispanics were more likely than blacks or whites to enroll in 2-year colleges and on a part-time basis. A larger proportion of black females than males attended college in 1978 (entries 3.5 and 3.6).
- Although women represented approximately 1 in 4 of total faculty, their representation among tenured faculty was less than 1 in 5 (entry 3.11).
- In the 1970's, nearly twice as many higher education institutions closed than in the previous decade (entry 3.8).
- In the 1970's, the distribution of bachelor's degrees by area of study shifted away from social sciences, humanities, and education and toward business/management and health/life sciences. This trend is expected to continue into the 1980's (entry 3.15).
- Expenditures of public institutions of higher education increased at a much higher rate than expenditures of private institutions (entry 4.1).
- Of the 18 million adult education participants, 10 million were women; blacks and Hispanics were significantly underrepresented among adult education participants (entry 6.2)
- Most adult education courses were taken for job-related reasons (entry 6.7).
- Total enrollment in noncollegiate postsecondary schools with occupational programs increased by 11 percent between 1974 and 1978 (entry 6.12).

The Condition of Education 1980 Edition

Statistical Report
National Center for Education Statistics

By Nancy B. Dearman
and Valena White Plisko

U.S. Department of Education
Shirley M. Hufstedler, Secretary

Office of Educational Research and Improvement
F. James Rutherford, Assistant Secretary

National Center for Education Statistics
Marie D. Eldridge, Administrator

National Center for Education Statistics

"The purpose of the Center shall be to collect and disseminate statistics and other data related to education in the United States and in other nations. The Center shall . . . collect, collate, and from time to time, report full and complete statistics on the conditions of education in the United States; conduct and publish reports on specialized analyses of the meaning and significance of such statistics; . . . and review and report on education activities in foreign countries."—Section 406 (b) of the General Education Provisions Act, as amended (20 U.S.C. 1221e–1).

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Foreword

The Condition of Education is the annual statistical report describing conditions in education as well as those in the larger society that affect education. It is prepared by the National Center for Education Statistics as required by Public Law 93–380, Title V, Section 501 (a). This is the sixth such report.

In this year's report, statistical data are presented on a variety of issues concerning educational institutions, participants, and personnel. The report is organized to reflect the characteristics of the education system and its relationship to the larger society. The first section of this report describes trends and developments affecting education at all levels. Chapter 1 establishes the context for examining the condition of education, chapter 2 covers elementary/secondary education, and chapter 3 examines higher education. In the second section of the report, special topics have been selected for closer analysis. Chapter 4 looks at the financing of higher education, chapter 5 examines preprimary education, chapter 6 describes adult and occupational education, and chapter 7 presents an analysis of resource disparity in elementary/secondary education.

The narrative for each chapter refers to data presented in chartbook form. Each entry on a topic consists of a table and a chart, which are presented together. The data highlighted in the chart, and briefly described in a statement accompanying the chart, are extracted from the facing table. Data used in the chart appear in boldface type in the table, which may be readily consulted for further information.

An effort was made in preparing this report to address a broad range of significant issues at all levels of education. Data on emerging as well as recurring issues are reported. Many of the statistics presented here relate to issues not included in previous editions of this report. To aid readers desiring statistics on other topics or more data on a particular issue, a cumulative index lists topics and data shown in the 1977, 1978, and 1979 editions, as well as in the present edition.

Part Two of this report contains a description of the activities of the Center for fiscal years 1980 and 1981. We hope that this report will be helpful to the reader in understanding the information and services available in the National Center for Education Statistics.

Marie D. Eldridge
Administrator
National Center for Education Statistics

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The Condition of Education, 1980, Statistical Report, was prepared by the National Center for Education Statistics (NCES) in the Division of Statistical Services under the supervision of Nancy-Jane Stubbs, Acting Director, and Forrest W. Harrison, Statistical Information Branch Chief.

Project Director Nancy B. Dearman and Associate Project Director Valena White Plisko were responsible for the development and preparation of the report. Warren Dahlstrom prepared the higher education finance chapter and assisted Eugene P. McLoone in preparation of the chapter on elementary/secondary resource disparity.

Carol Jordan was responsible for typing tables and manuscript and maintaining automated production records. Loretta Wright provided editorial assistance. Celeste Loar and Tom Snyder assisted in verification of statistical tables.

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The Condition of Education

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Chapter 1
A Context for Examining the Condition of Education

The beginning of a new decade is a traditional time for evaluating the past and anticipating the future. Social, demographic, and economic trends of the past play a large role in determining the future of education. It is in this context of past trends and future expectations that the condition of education is examined in this report.

This first chapter begins with a profile of the American population and the impact of its changing composition on education. The educational plans of the potential students of the 1980's are examined to supplement projected information on education. A discussion of science education in the second section focuses on the availability of personnel to meet the science needs of the new decade. The chapter concludes with an examination of past trends in financing education in this country and the effect these trends are expected to have on the future of education.

Education in the 1980's

The character of education in the 1980's will be shaped to a large extent by the size of the population it serves. Between 1980 and 1990, the American population is expected to increase and the age composition will be significantly different from the previous decade (entry 1.1). The median age of the population is a measure of this change. In 1970 the median age of the population was 27.9 years, increasing to 28.8 years by 1975. This increase is projected to continue through the 1980's, and by 1990 the median age is expected to be 32.8 years, almost 5 years older than the median age in 1970.

This "aging" of the American population is the result of several social trends that have had and will have strong influences on the education system in the United States. The 15 years of growth in fertility rates following World War II, which peaked at a high total fertility rate of 3.8 births per female in 1957, produced a baby boom that has now largely passed through the education system. Persons born during that period now range in age between 18 and 34. This age group represented 22 percent of the population in 1965; in 1980, they represent 30 percent.

The total fertility rate has since declined to 1.8 in 1978 resulting in steady decreases in the proportion of the population under age 18. In 1965, this proportion was 36 percent, decreasing to 31 percent by 1975, and is expected to be 28 percent in 1980. Using the Census Bureau's Series II projections that forecast an increase in the total fertility rate to 2.1 by 1990, the proportion of children under age 18 drops to 27 percent. If the fertility rate continues to decline to between 1.6 and 1.7 during the next decade, this proportion might be as low as 24 percent by 1990. Even with the possibility of very low birth rates, however, the numbers of children born will increase because of the large numbers of women of the baby boom generation of child-bearing age. The implication of this change for education is that, following the 15 to 20 year period of rapid growth at all levels of education, there will be a period of adjustment to these population fluctuations. The ways in which educational institutions at various levels are making these adjustments are discussed in more detail in later chapters.

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Changes in population will not be uniform over all regions and areas of the United States. While birth and death rates are the significant components of overall population change, the major difference in population growth among States or regions is due to the third component—migration. Estimates and projections of combined inmigration and outmigration are called net migration, which represents the degree of growth due to population movement into an area. Over the next decade, regions with positive net migration are expected to be the South and West, while those showing losses will be the Northeast and North Central regions (entry 1.2). In the South, Florida and Texas are probably facing the largest gains, while in the West, California and Arizona are expected to have the highest levels of net migration. New York and Pennsylvania are projected to show the greatest loss in population due to net migration in the Northeast, and the same is true for Ohio and Illinois in the North Central region.

Throughout this Nation's history, many of its immigrants came as the refugees of wars or intolerable conditions in their country of birth. One of the largest of such mass migrations of refugees occurred in the 1970's. Beginning in 1975, with the collapse of the governments of South Vietnam and Cambodia, the number of Indochinese refugees entering this country swelled to 302,141. Most of these entered since 1978 and it is estimated that in 1980 an additional 168,000 will be admitted. By mid-1981, the total number of Indochinese refugees is expected to reach 600,000. Immediate problems that accompany such a sudden and vast influx of people include provision of food, shelter, and medicine. But the problem of providing education is most crucial in terms of enabling these refugees to become productive members of society by eliminating the language barrier as quickly as possible.

In January 1980, the number of Indochinese refugee children enrolled in elementary/secondary schools who entered the country after January 1, 1977 was 67,173 (entry 1.3). More than half of these pupils entered school during the 1979–80 school year. They were concentrated in a small number of school districts: 2,664 out of the national total of more than 16,000 school districts enrolled Indochinese refugee children. Of these districts, 275 enrolled more than 75 percent of the children. California and Texas together enrolled one-third of the total number. But in all States and school districts, regardless of the number enrolled, changes in curriculum, staffing, and instruction were required to meet the specific needs of these children.

Federal, State, and local governments and private agencies are seeking to resolve the educational problems of the refugees. Voluntary agencies provide sponsors for refugees and such educational services as language instruction and counseling. Federal government initiatives include provision of funds to States and school districts for the education of refugee children. Federal funds for education of adult refugees include provisions for language instruction and occupational training.

The effects of population changes on enrollment in educational institutions can be measured by examining total enrollment of the traditional levels of education—elementary, secondary, and higher education. In 1975, total enrollment at these levels reached an all-time high of 61.1 million students, but dropped more than 3 percent by 1978 to 58.9 million (entry 1.4). These declines are expected to continue through the mid-1980's to reach a low of 55.1 million, or 10 percent below the 1975 peak. Gradual increases are expected toward the end of the 1980's, primarily because of projected increases at the elementary level. However, even these slight increases are dependent upon projected births in the early years of the 1980's. Enrollment changes at the elementary and secondary level are examined more thoroughly in chapter 2, and changes in higher education enrollment are discussed in chapter 3.

Enrollment in these traditional educational institutions is only a portion, although the major portion, of the total number of participants in educational activities. Not included in those figures are enrollment in preprimary educational programs, noncollegiate postsecondary occupational programs, adult education, and the numerous programs offered by businesses, governments, churches, and other organizations that can be categorized as education. The result of changing social and demographic patterns has been that some of these educational programs are assuming greater importance. In terms of participants, these programs may be viewed as the growth areas of education. Chapters 5 and 6 explore three of these areas—preprimary, adult, and occupational education—in greater detail.

Participation in elementary and secondary education is highly predictable since there is almost universal enrollment of 5- to 17-year-olds at these levels. Ninety-seven percent of this age group attended school in 1978–79. But a prediction of participation at postsecondary levels is more difficult since it involves individual choices among a variety of alternatives. Although such choices may be limited by students' abilities and financial status, as well as by the availability of alternatives, some insight may be gained by examining students' future plans as they relate to education and work.

A survey of secondary school seniors conducted in 1978 queried students about their post high school plans (entry 1.5). Nearly 9 percent said that they definitely will attend vocational or technical school. Slightly more males than females had this plan, but differences by race were more significant. Approximately 8 percent of white seniors and just under 13 percent of black seniors said that they definitely will attend technical or vocational school. The proportions of students with higher education plans was larger. Nearly 11 percent and 30 percent said that they definitely will graduate from a 2-year or 4-year college, respectively. By race, the proportions were 30 percent for white seniors and 32 percent for black seniors who planned to graduate from a 4-year college. Nearly 9 percent of all high school seniors had definite plans to attend graduate or professional school after college.

College freshmen were asked about the highest academic degree they planned to attain (entry 1.6). Responses of freshmen in 1970 and 1979 show very little change in the plans of all freshmen, but significant shifts occurred in the proportions of men and women planning higher education degrees. In 1970, 40.9 percent of men and 56.6 percent of women expected their highest degree to be a bachelor's degree or less. By 1979, that proportion had increased to 42.7 percent for men but had decreased to 48.2 percent for women. The proportion of women planning a doctor's degree increased by 1.5 percentage points during that period, while for men it dropped by nearly 3 points. The most significant increases in women's plans occurred in the area of professional degrees. The proportion of women planning medical degrees more than doubled—from 2.2 percent to 5.5 percent; and plans for law degrees increased—from .9 percent to 3.5 percent. These greater aspirations of women are expected to increase their enrollment in the graduate schools and to increase their entrance into the professions during the next decade.

More than one-half of the students enrolled in noncollegiate postsecondary occupational programs planned to continue education either in their current field or in another field, according to a 1979 survey (entry 1.7). Only 18 percent had no further education plans. The large majority, 83 percent, planned to use their training to seek jobs in their current field. These students will be able to provide the manpower needed in the next decade for skills in such areas as health, office, and technical occupations.

Science Education: Meeting Future Needs

In 1957, when the launch of the Soviet's Sputnik set off the space race, America's capabilities in science and engineering fields were assessed and found wanting. Massive efforts were initiated to increase these capabilities through the Nation's educational institutions. The 1980's are expected to be a period of new assessments of our scientific capabilities, as National concerns shift to such areas as energy, the environment, and health. In this section, science education in this country is examined in the context of meeting the Nation's future needs.

At the elementary school level, teachers were asked in 1977 about the amount of time spent each day on various subjects (entry 1.8). While the greatest amount of time was spent on reading, mathematics was second with an average of 41 minutes per day in kindergarten through third grade and 51 minutes per day in fourth through sixth grade. Of the four subjects mentioned—reading, mathematics, social studies, and science—the least amount of time was spent on science, an overall average of 20 minutes per day.

As chapter 2 will show, the vast majority of the Nation's school districts required at least 1 year of science and mathematics courses at the secondary level, and one-third required more than 1 year of each of these subjects in 1977. Science courses most likely to be offered in grades 10 through 12 were general science, biology, chemistry, and physics (entry 1.9). Enrollments were highest in these courses, with the exception of physics. In 1977, nearly 3 million students in grades 10 through 12 were enrolled in a first-year biology course, 2.2 million in general science, 1.2 million in first-year chemistry, and 0.5 million in first-year physics. Approximately 2.5 million students in these grades were enrolled in some other science course, including 494,235 students taking an advanced course in biology, chemistry, or physics. Enrollments in mathematics courses were higher than in the sciences and nearly 2 million students in senior high school grades were taking advanced mathematics courses such as advanced algebra, trigonometry, calculus, and advanced senior math.

The science and mathematics courses taken by high school seniors planning to attend college, as measured by those taking Scholastic Aptitude Tests (SAT's), give evidence of the quantity of training these students have received prior to college entry (entry 1.10). College-bound seniors from the class of 1979 took a mean of 3.4 years of mathematics, 1.4 years of biological sciences, and 1.8 years of physical sciences. Differences between males and females were significant, with the proportion of males taking 4 or more years of each of these subjects higher than that proportion for females. About 64 percent of males took 4 or more years of mathematics compared to 45 percent of females. The proportions for biological sciences were 2.7 percent for males and 2.1 percent for females; for physical sciences, 6.6 percent males and 2.6 percent females. Fourteen percent of college-bound seniors took honors courses in mathematics and between 9 and 10 percent took honors courses in biological and physical sciences. A discussion of the quality of college preparation as measured by SAT's in chapter 3 shows that college-bound seniors intending to study physical sciences, engineering, and mathematics had higher SAT scores than those intending to study any other area.

Students acquiring associate degrees (requiring at least 2 years, but less than 4 years of work beyond high school) help provide the Nation's manpower needs in occupations requiring technical skills. In science and engineering fields these include such occupational skills as data processing, paramedical, laboratory, and engineering technologies. Over the past decade, the number of students obtaining associate degrees in all curriculums has risen by almost two-thirds, from 252,610 in 1970–71 to 412,246 in 1977–78 (entry 1.11). But associate degrees awarded in science and engineering occupational fields have risen at an even faster rate, more than doubling during that period. Among these fields, health services and paramedical degree-holders almost tripled; in 1970–71, 21,269 such degrees were awarded, increasing to 62,030 in 1977–78. At the same time, degrees in natural science technologies more than doubled. Other scientific fields had slower growth rates; degrees in mechanical and engineering technology grew by two-thirds, while those in data processing increased by less than one-fourth.

Our Nation's continued advancement in technology is dependent to a large extent upon its supply of science and engineering personnel. The persons who make up this manpower base conduct basic research to advance the understanding of nature, perform applied research and development in a variety of areas such as health, energy, and the environment, and train the Nation's future scientists and engineers. Significant changes in the supply of this group have occurred over the last quarter-century.

In 1956, just prior to the beginning of the space race, 68,490 bachelor's, master's, and doctor's degrees were awarded in the sciences, mathematics, and engineering out of a total of 376,973 degrees awarded in all fields (entry 1.12). Between 1958 and 1970 the total number of degrees awarded in all fields at all levels more than doubled, with doctor's degrees increasing by 336 percent of 1956 levels. At the same time doctor's degrees awarded in mathematics reached a peak of 526 percent of their 1956 levels, and engineering degrees peaked at 603 percent in 1970. Doctor's degrees awarded in physical sciences reached a high of 259 percent of 1956 levels by 1970 and at that time degrees awarded in biological sciences were 321 percent, reaching a high point just 2 years later at 356 percent.

While the total number of doctor's degrees awarded in all fields did not peak until 1976, at 383 percent of 1956 levels, those in the sciences had already begun to decrease during the early 1970's. There has been a steady decline in the number of doctor's degrees awarded in these fields since that time. An examination of degrees awarded at lower levels, however, shows an enlarging pool from which doctoral candidates of the 1980's in these fields are drawn. With the exception of mathematics, bachelor's degrees awarded in the sciences and engineering have continued to increase, and the number of master's degrees awarded in biological sciences and engineering was greater in 1978 than ever before.

A large proportion of degrees awarded in scientific fields were awarded to non-resident aliens (defined as those who are not United States citizens and do not have the right to remain indefinitely). In 1977, more than 11 percent of all doctor's degrees were awarded to these students. Of the doctor's degrees awarded in the scientific fields, one-third of the engineering doctorates, one-fifth of computer sciences doctorates, and 17 percent of mathematics doctorates were conferred upon non-resident aliens. These students have been a factor in maintaining enrollment levels in colleges and universities as is discussed in chapter 3. But the decline in the number of scientific doctorates together with the large proportions represented by non-resident aliens may threaten the supply of this country's scientific personnel.

Research and development is the primary activity of the Nation's scientists and engineers. This activity may be broken down into three components: basic research, applied research, and development. Both applied research and development have as their aim the application or potential application of acquired knowledge. But both are outcomes of basic research whose primary aim is to advance man's understanding of himself and his environment. Institutions of higher education in the United States conduct most of the basic scientific research activities.

Support for basic research in colleges and universities grew rapidly between 1960 and 1968 (entry 1.13). Federal support, comprising between 70 and 80 percent of the total, grew most rapidly; it more than tripled (in 1972 constant dollars) in that period. Both total and Federal support fluctuated in terms of constant dollars between 1969 and 1975 but since have risen. Current dollar expenditures for basic research in colleges and universities amounted to a total of $3.2 billion in 1978, with the amount contributed by Federal sources at a peak of $2.3 billion. The field of life sciences continued to receive the bulk of Federal obligations for basic research, but support for environmental sciences increased more rapidly between 1973 and 1977 than any other field.

Financing Education in the Coming Decade

Education finances came under increasing scrutiny during the 1970's. As enrollments first stabilized and then declined, the way this country paid for its educational services became the subject of debate at every institutional level. Education expenditures continued to increase at an even higher rate than inflation; the distribution of support for education shifted; and such costs as salaries, fuel, and special services increased. While these topics are covered in more detail for specific education levels in later chapters, this section examines the overall picture of education finance in this country.

Current expenditures of the two largest components of the education system—elementary/secondary and higher education—increased by 21 percent in constant dollar terms during the 1970's (entry 1.14). Most of this increase was the result of the growth in higher education. While elementary/secondary enrollment declined and higher education enrollment increased, current expenditures at the higher level grew at a faster rate. Expenditures are expected to follow projected enrollment patterns in the 1980's, with elementary/secondary expenditures leveling off at around $90 billion in the first half of the decade before increasing to a high of $105 billion (in 1978–79 dollar terms) by 1989. Higher education expenditures are expected to continue to increase, but at a slower rate than in the 1970's—from $49 billion in 1978 to $58 billion by 1989.

Support for education is manifested through spending by individuals and institutions. The United States has traditionally channeled a large portion of its collective wealth into education. Education's share of the Gross National Project (GNP) steadily increased between 1949 and 1969 from just over 3 percent to nearly 8 percent (entry 1.15). By 1971, education accounted for a larger proportion of the GNP than defense or health, but faster rising health expenditures overtook those of education by 1973. Between 1969 and 1977, the proportion of the GNP for education held steady at between 7.5 and 8.0 percent, but dropped to 7.2 percent in 1978.

Most of the support for education is the responsibility of various levels of government in this country. Education ranked first in governmental expenditure in 1978, amounting to 21 percent of total general government payments (entry 1.16). As total governmental expenditure increased nearly four-fold since 1958, the proportion for education also grew. In 1958, it was 14 percent of total expenditure and ranked second to national defense at 40 percent. By 1974, education's share had grown to 21.5 percent of total expenditure, before dropping to 21.0 percent in 1978. But the proportion for national defense was higher in 1974, 31 percent, than in 1978 when it was 20 percent. Public welfare and health and hospital functions also increased their shares of total expenditure, but expenditures for highways decreased as governments turned toward mass transportation expenditures.

Federal expenditures for education comprised nearly 6 percent of total Federal expenditures in 1978. More than one-half of this amount was in the form of payments to State and local governments to be distributed by them for educational purposes, primarily in the form of grants-in-aid. Also included in the Federal expenditure for education is payment for scientific research and development and veteran's benefits.

State and local governments have the primary responsibility for providing public education, and education is the largest share of their total expenditure. Thirty-nine percent of State expenditure was for education in 1978. Most of State expenditure for education is directed to institutions of higher education, while most of local education expenditure is for local schools. In 1978, local expenditure for education comprised 44 percent of the total, which represented a decrease from the high of 48 percent in 1966.

State and local governments provided nearly all of the monies used for construction of local schools and institutions of higher education. An examination of these expenditures over time, adjusted for inflation, shows the effects of school-age population changes. During the years of high fertility rates, expenditure for local school construction remained high (entry 1.17). The peak year for the fertility rate, 1957, was also the peak year for construction of local schools at $7.9 billion in constant 1977–78 dollars. Ten years later saw the peak in expenditure for construction of institutions of higher education, $4.6 billion.

By 1978, construction expenditure for local schools had dropped to under $4 billion, lower than that of any year since 1952. Expenditure for construction of higher education institutions dropped to $1.6 billion, lower than pre-1959 levels. Construction costs for educational institutions will probably continue to remain at low levels in the 1980's with expenditure mainly for replacement except in the South and West which may need new buildings because of migration factors.

Table 1.1
Population of the United States, by age and race with projections: 1965 to 1990

Age and race	Estimates[1]			Projections[2]			Percent change				
	1965	1970	1975	1980	1985	1990	1965 to 1970	1970 to 1975	1975 to 1980	1980 to 1985	1985 to 1990
	(Numbers, in thousands)										
All races[3]:											
All ages	194,303	204,878	213,540	222,159	232,880	243,513	5.4	4.2	4.0	4.8	4.6
Under 5	**19,824**	**17,148**	**15,882**	**16,020**	**18,803**	**19,437**	−13.5	−7.4	.9	17.4	3.4
5 to 13	**35,754**	**36,636**	**33,440**	**30,197**	**29,098**	**32,568**	2.5	−8.7	−9.7	−3.6	11.9
14 to 17	**14,153**	**15,910**	**16,934**	**15,763**	**14,392**	**12,771**	12.4	6.4	−6.9	−8.7	−11.3
18 to 24	**20,293**	**24,687**	**27,604**	**29,462**	**27,853**	**25,148**	21.7	11.8	6.7	−5.5	−9.7
25 to 34	22,465	25,294	30,918	36,172	39,859	41,086	12.6	22.2	17.0	10.2	3.1
35 to 44	24,447	23,142	22,815	25,721	31,376	36,592	−5.3	−1.4	12.7	22.0	16.6
45 to 54	21,839	23,310	23,768	22,698	22,457	25,311	6.7	2.0	−4.5	−1.1	12.7
55 to 64	17,077	18,664	19,774	21,198	21,737	20,776	9.3	5.9	7.2	2.5	−4.4
65 and over	18,451	20,087	22,405	24,927	27,305	29,824	8.9	11.5	11.3	9.5	9.2
Median age	28.1	27.9	28.8	30.2	31.5	32.8	---	---	---	---	---
White:											
All ages	171,205	179,494	185,554	191,581	199,458	207,257	4.8	3.4	3.2	4.4	3.9
Under 5	16,821	14,452	13,137	13,284	15,699	16,235	**−14.1**	**−9.1**	**1.1**	**18.2**	**3.4**
5 to 13	30,628	31,122	28,025	24,878	23,760	26,798	**1.6**	**−10.0**	**−11.2**	**−4.5**	**12.8**
14 to 17	12,271	13,618	14,328	13,122	11,819	10,271	**11.0**	**5.2**	**−8.4**	**−9.9**	**−13.1**
18 to 24	17,882	21,511	23,677	24,964	23,259	20,642	**20.3**	**10.1**	**5.4**	**−6.8**	**−11.2**
25 to 34	19,709	22,167	27,006	31,254	33,960	34,593	12.5	21.8	15.7	8.7	1.9
35 to 44	21,760	20,408	19,957	22,464	27,356	31,607	−6.2	−2.2	12.6	21.8	15.5
45 to 54	19,683	20,945	21,171	19,955	19,567	22,021	6.4	1.1	−5.7	−1.9	12.5
55 to 64	15,514	16,897	17,686	19,078	18,379	18,279	8.9	4.7	7.9	−3.7	−.5
65 and over	16,935	18,374	20,386	22,580	24,660	26,810	8.5	11.0	10.8	9.2	8.7
Median age	29.0	28.8	29.6	31.1	32.3	33.6	---	---	---	---	---
Black:											
All ages	21,064	22,782	24,517	26,156	28,005	29,799	8.2	7.6	6.7	7.1	6.4
Under 5	2,749	2,428	2,384	2,310	2,589	2,622	**−11.7**	**−1.8**	**−3.1**	**12.1**	**1.3**
5 to 13	4,711	5,015	4,819	4,581	4,452	4,727	**6.4**	**−3.9**	**−4.9**	**−2.8**	**6.2**
14 to 17	1,730	2,089	2,338	2,322	2,200	2,056	**20.8**	**11.9**	**−.7**	**−5.2**	**−6.5**
18 to 24	2,179	2,825	3,438	3,869	3,863	3,664	**29.6**	**21.7**	**12.5**	**−.2**	**−5.2**
25 to 34	2,458	2,725	3,286	4,065	4,847	5,271	10.9	20.6	23.7	19.2	8.8
35 to 44	2,422	2,406	2,462	2,748	3,324	4,102	−.7	2.3	11.6	21.0	23.4
45 to 54	1,985	2,127	2,266	2,320	2,395	2,678	7.2	6.5	2.4	3.2	11.8
55 to 64	1,425	1,613	1,720	1,863	2,015	2,072	13.2	6.6	8.3	8.2	2.8
65 and over	1,404	1,556	1,804	2,078	2,320	2,607	10.8	15.9	15.2	11.6	12.4
Median age	22.2	22.5	23.5	25.0	26.8	28.5	---	---	---	---	---

[1] Estimates as of July 1 of each year. Includes Armed Forces overseas.
[2] Census Series II projections.
[3] Includes white, black, and other races.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Population Estimates and Projections*, Series P–25, Nos. 614, 634, 704.

Chart 1.1
Population of Selected Age Groups in the United States

Population changes are expected to affect enrollments over the next decade. Increases in the nursery and kindergarten and in the elementary age groups are expected throughout the 1980's, while decreases are expected in the secondary and postsecondary age groups.

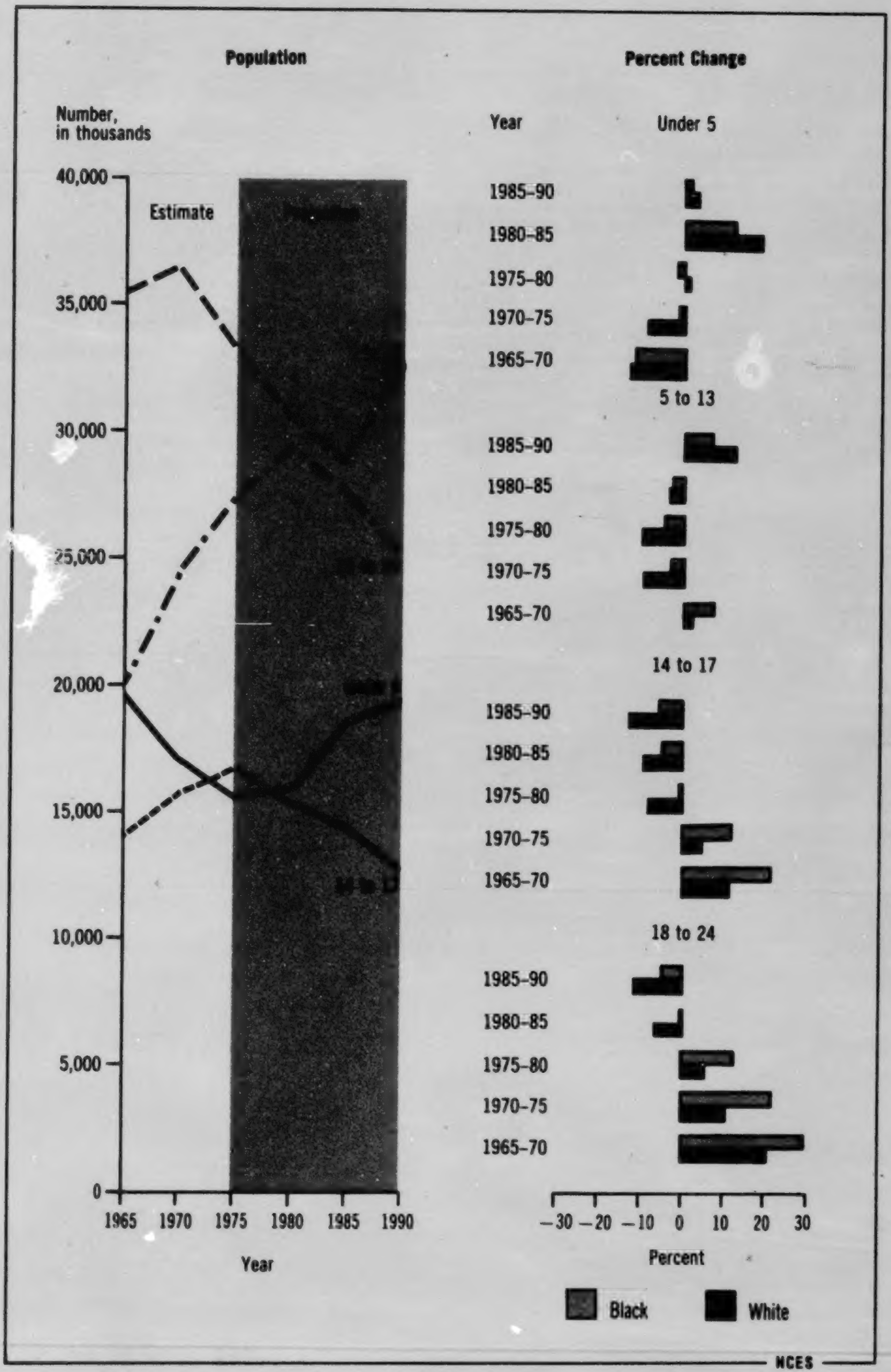

Table 1.2
Population changes in the United States and net migration changes, by region and division, with projections: 1970 to 1990

Region and division	Census, April 1970	Percent change[1] 1970 to 1975	1975 to 1980	1980 to 1985	1985 to 1990	Net migration[2] 1970 to 1975	1975 to 1980	1980 to 1985	1985 to 1990
	(In thousands)					(In thousands)			
United States[3]	203,306	4.8	4.0	4.8	4.6	2,444	1,943	1,974	1,974
Northeast	49,061	.8	.8	1.9	2.0	**−690**	**−557**	**−492**	**−447**
New England	11,848	2.9	3.0	4.1	4.1	60	103	98	92
Middle Atlantic	37,213	.2	.0	1.1	1.3	−750	−660	−590	−539
North Central	56,593	1.8	1.4	2.5	2.5	**−914**	**−1,027**	**−949**	**−875**
East North Central	40,266	1.7	1.1	2.2	2.2	−806	−909	−845	−797
West North Central	16,327	2.2	2.0	3.1	3.1	−108	−118	−104	−78
South	62,813	8.3	7.1	7.4	6.7	**2,565**	**2,368**	**2,371**	**2,358**
South Atlantic	30,678	9.7	8.6	8.6	7.7	1,814	1,804	1,789	1,758
East South Central	12,808	5.5	4.4	5.1	4.8	177	128	150	174
West South Central	19,327	8.0	6.4	6.9	6.4	573	435	432	426
West	34,838	8.8	7.0	7.3	6.5	**1,484**	**1,160**	**1,043**	**936**
Mountain	8,289	16.1	11.3	10.7	9.1	810	575	498	440
Pacific	26,549	6.5	5.5	6.1	5.6	674	585	545	496

[1] Data for 1975 are estimated for July 1, 1975. Data for 1980 to 1990 are projected as of July 1 of each year; Census Series II–B projections.
[2] Includes an estimate of 26,300 due to deaths to persons in the Armed Forces during each 5–year period.
[3] Data are for the resident population of the 50 States and District of Columbia.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Illustrative Projections of State Populations by Age, Race, and Sex: 1975 to 2000*, Series P–25, No. 796, 1979.

Chart 1.2
Net Migration by Region

Although projected birth and death rates indicate that the total population is expected to increase, the changes will be uneven across regions because of net migration patterns.

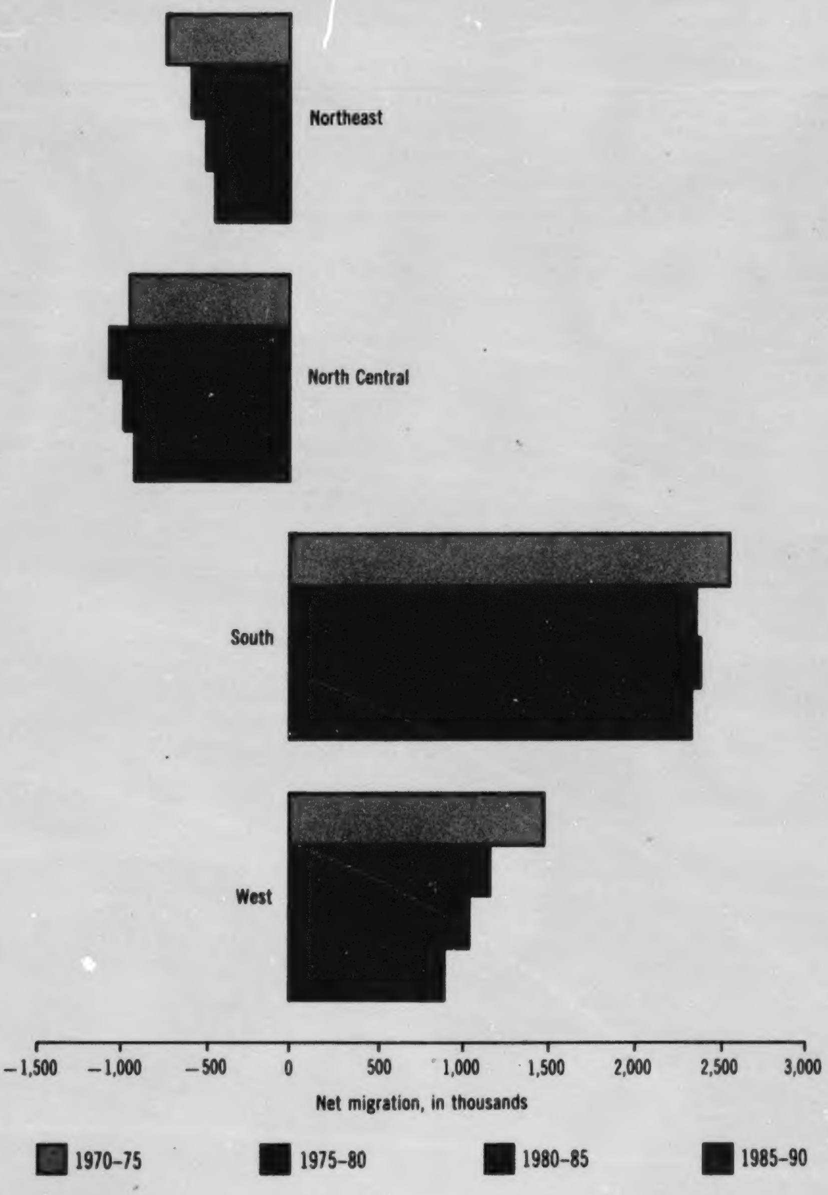

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Table 1.3
Indochinese[1] refugees in the United States and elementary/secondary enrollment of Indochinese refugee children, by State: 1980

State	Total population[2] of refugees	Number[3] of elementary/secondary pupils				
		Total	Public	Private	First enrolled in 1979–80	School districts
Total 50 States and D.C.	302,141	67,173	63,881	3,292	38,646	2,664
Alabama	1,565	342	296	46	196	28
Alaska	242	49	49	0	49	5
Arizona	2,194	540	521	19	356	38
Arkansas	2,230	648	586	62	343	41
California	99,554	17,394	17,089	305	10,919	252
Colorado	6,326	1,351	1,342	9	808	21
Connecticut	2,745	496	462	34	436	45
Delaware	177	46	46	0	32	4
District of Columbia	3,321	51	48	3	40	1
Florida	6,443	1,193	1,117	76	653	29
Georgia	2,722	952	923	29	524	61
Hawaii	4,661	935	935	0	383	1
Idaho	496	178	153	25	89	23
Illinois	10,369	2,922	2,704	218	1,164	200
Indiana	2,736	693	517	176	449	84
Iowa	4,889	1,391	1,272	119	859	91
Kansas	3,891	1,133	1,076	57	623	43
Kentucky	1,480	366	325	41	216	30
Louisiana	9,259	1,789	1,698	91	950	16
Maine	447	123	92	31	104	20
Maryland	3,162	1,249	1,197	52	428	17
Massachusetts	3,128	536	526	10	449	51
Michigan	5,213	1,060	978	82	662	83
Minnesota	8,371	2,763	2,613	150	1,124	117
Mississippi	985	319	313	6	66	20
Missouri	2,748	634	534	100	294	42
Montana	823	225	216	9	154	16
Nebraska	1,725	346	279	67	173	27
Nevada	1,652	291	286	5	208	5
New Hampshire	199	78	73	5	57	14
New Jersey	2,522	875	676	199	598	144
New Mexico	1,213	393	375	18	181	5
New York	8,308	3,062	2,861	201	1,632	204
North Carolina	2,612	590	578	12	431	44
North Dakota	515	136	130	6	93	23
Ohio	4,163	918	771	147	567	112
Oklahoma	4,672	872	725	147	592	23
Oregon	8,575	2,283	2,200	83	1,289	80
Pennsylvania	12,345	2,117	1,930	187	1,565	109
Rhode Island	1,732	662	622	40	333	14
South Carolina	1,061	206	197	9	129	20
South Dakota	564	219	209	10	112	27
Tennessee	2,818	1,244	1,222	22	874	38
Texas	29,122	5,427	5,383	44	2,740	140
Utah	3,093	1,175	1,172	3	787	17
Vermont	78	22	15	7	22	NA
Virginia	8,545	2,573	2,521	52	1,249	49
Washington	11,958	2,650	2,592	58	1,676	73
West Virginia	254	64	63	1	34	12
Wisconsin	4,039	1,511	1,295	216	898	94
Wyoming	199	81	78	3	36	11

[1] Includes Vietnamese, Cambodians, and Laotians.

[2] Data collected in January, 1980.

[3] Data collected in January 1980 of Indochinese refugees who have entered the U.S. since 1977.

NA Not available.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, State Child Counts for 1980, unpublished tabulations.

Chart 1.3
Indochinese Refugee Children Enrolled in Elementary/Secondary Schools

States with the largest number of Indochinese refugee children enrolled in elementary and secondary schools were California, Texas, and New York. Enrollment was concentrated in a relatively small number of school districts in each State.

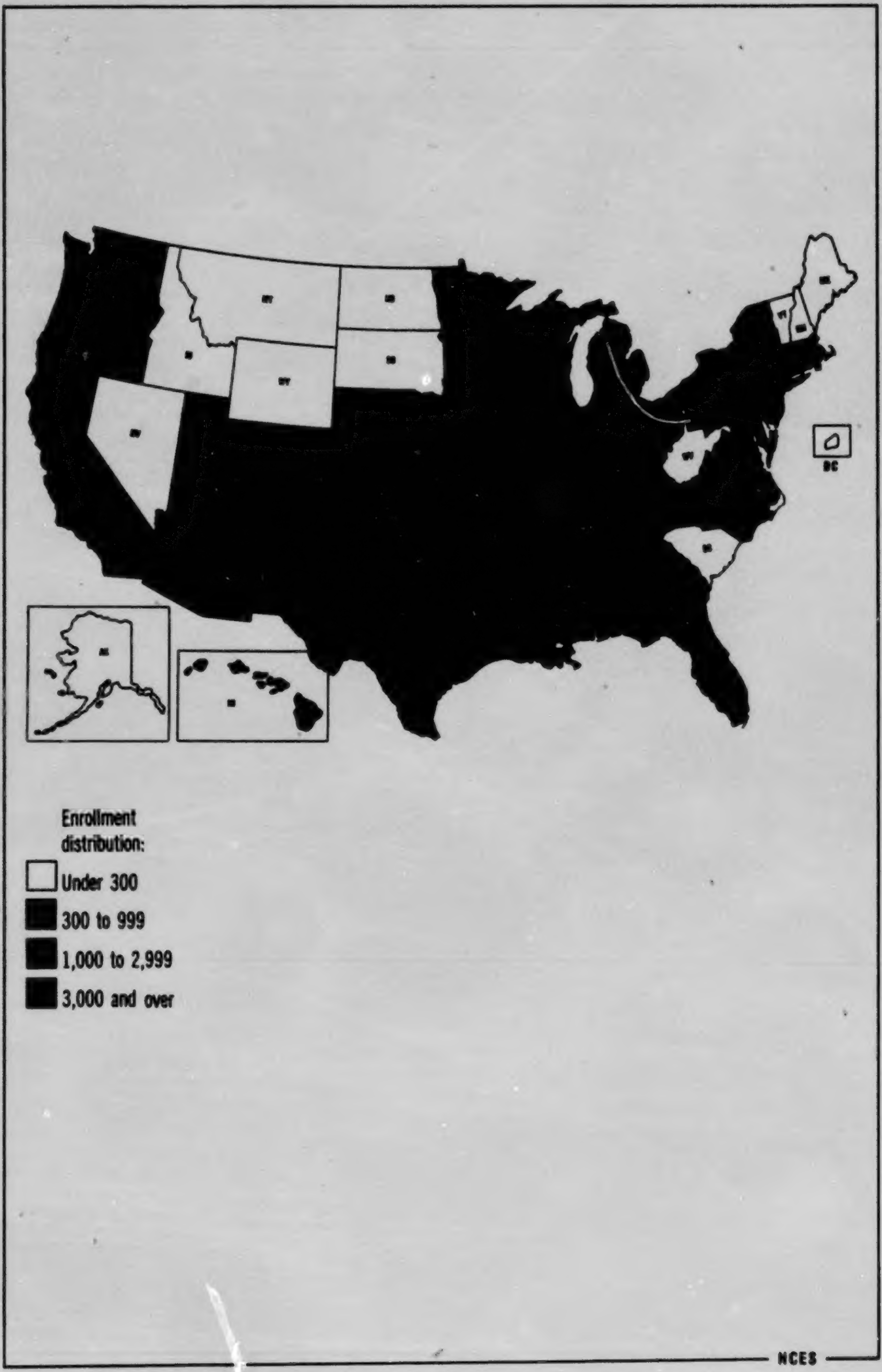
DC
Enrollment distribution:
☐ Under 300
■ 300 to 999
■ 1,000 to 2,999
■ 3,000 and over
NCES

Table 1.4
Summary of enrollment in educational institutions[1], with projections, by level of institution: Fall 1970 to fall 1988

Fall of year	Total enrollment	Elementary schools (Grades K–8)	High schools (Grades 9–12)	Institutions of higher education
		(In thousands)		
1970	59,899	36,686	14,632	8,581
1971	60,152	36,088	15,116	8,948
1972	60,000	35,569	15,216	9,215
1973	59,982	34,999	15,380	9,603
1974	60,340	34,584	15,532	10,224
1975	61,063	34,174	15,704	11,185
1976	60,507	33,768	15,727	11,012
1977	59,855	32,851	15,720	11,284
1978	58,948	32,061	15,628	11,259
		Projection		
1979	58,129	31,376	15,245	11,508
1980	57,382	30,974	14,797	11,611
1981	56,802	30,614	14,298	11,890
1982	55,885	30,217	13,998	11,670
1983	55,381	30,273	13,495	11,613
1984	55,122	30,208	13,422	11,492
1985	55,111	30,257	13,496	11,358
1986	55,292	30,675	13,402	11,215
1987	55,576	31,369	13,103	11,104
1988	55,938	32,223	12,667	11,048

[1] Includes public and private institutions.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1988–89*, 1980.

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Chart 1.4
Enrollment in Educational Institutions

Total enrollment in educational institutions is expected to continue dropping below the 1975 peak-year level through the mid-1980 decade. Although enrollment is expected to begin to climb again in 1986, by the end of the decade it still will not reach 1978 levels.

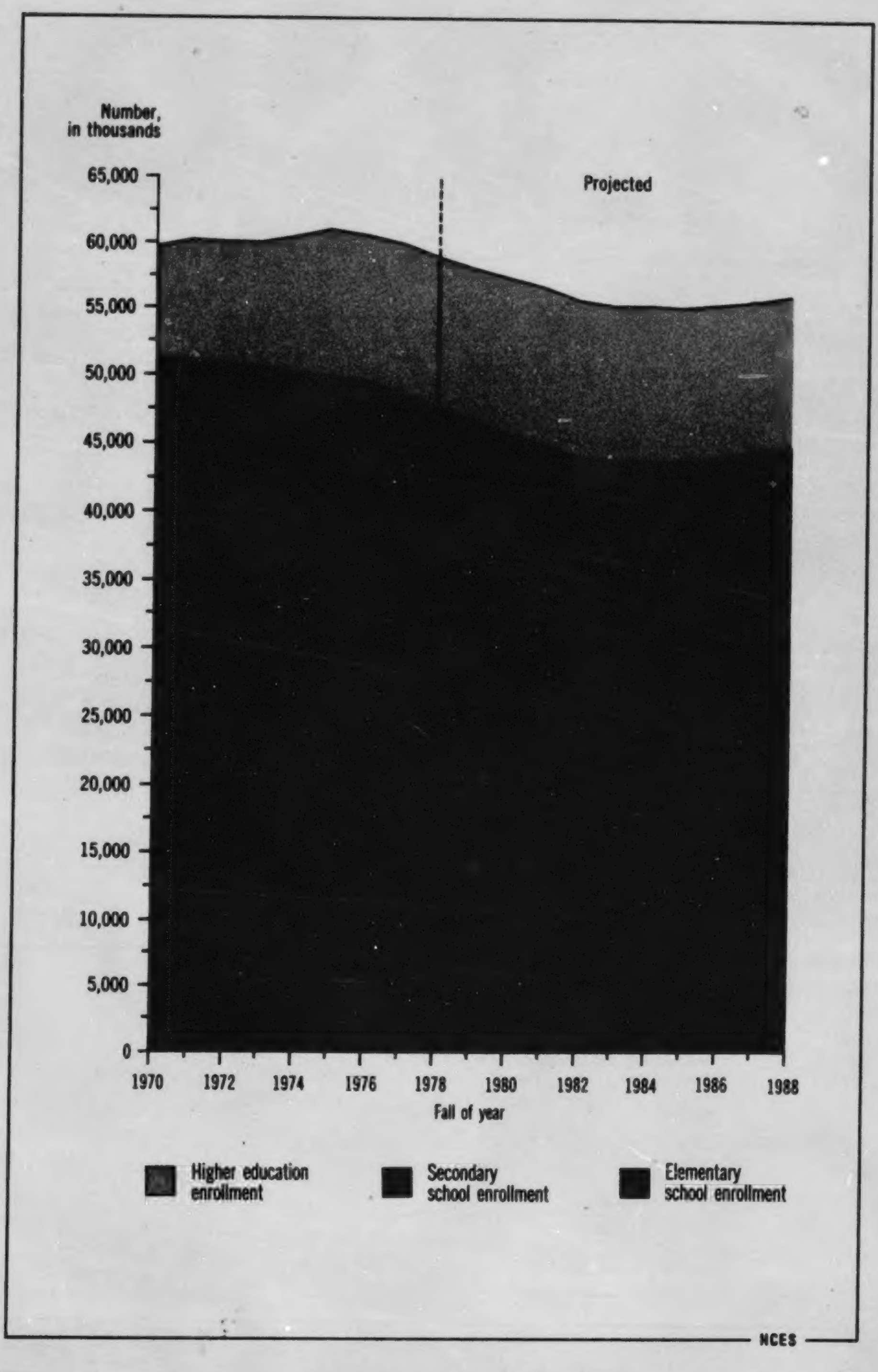

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Table 1.5
Post high school plans of secondary school seniors: 1978

Item	Total	Sex		Race	
		Male	Female	White	Black
How likely is it that, after high school you will	Percentage distribution				
Attend technical/vocational school:					
Total	100.0	100.0	100.0	100.0	100.0
Definitely will	8.9	9.2	8.6	8.2	12.9
Probably will	19.3	21.7	16.8	17.9	26.5
Probably won't	29.7	30.9	28.4	30.3	25.9
Definitely won't	42.1	38.2	46.2	43.7	34.7
Serve in the armed forces:					
Total	100.0	100.0	100.0	100.0	100.0
Definitely will	4.4	7.3	1.6	3.4	11.2
Probably will	7.6	11.4	3.9	6.3	15.4
Probably won't	25.4	32.9	18.2	25.8	20.8
Definitely won't	62.6	48.4	76.3	64.5	52.6
Graduate from a 2-year college:					
Total	100.0	100.0	100.0	100.0	100.0
Definitely will	10.7	8.7	12.5	10.3	11.0
Probably will	20.3	19.0	21.4	18.6	28.9
Probably won't	30.8	33.9	28.0	31.6	28.2
Definitely won't	38.1	38.3	38.2	39.6	32.0
Graduate from a 4-year college:					
Total	100.0	100.0	100.0	100.0	100.0
Definitely will	29.7	30.4	29.3	29.9	32.2
Probably will	21.6	22.7	20.6	21.5	22.8
Probably won't	19.1	19.3	18.6	18.6	20.2
Definitely won't	29.7	27.5	31.4	30.0	24.9
Attend graduate/professional school after college:					
Total	100.0	100.0	100.0	100.0	100.0
Definitely will	8.7	9.5	8.1	7.8	13.6
Probably will	21.3	21.8	21.0	21.1	23.3
Probably won't	32.4	33.0	31.7	32.9	30.9
Definitely won't	37.6	35.7	39.2	38.2	32.2

NOTE: Details may not add to totals because of rounding.

SOURCE: Monitoring the Future, Survey Research Center, Institute for Social Research, The University of Michigan, unpublished tabulations.

Chart 1.5
Post High School Plans of Secondary School Seniors

Nearly 30 percent of seniors reported that they "definitely will" graduate from a 4-year college after high school, while less than 5 percent reported that they "definitely will" serve in the armed forces.

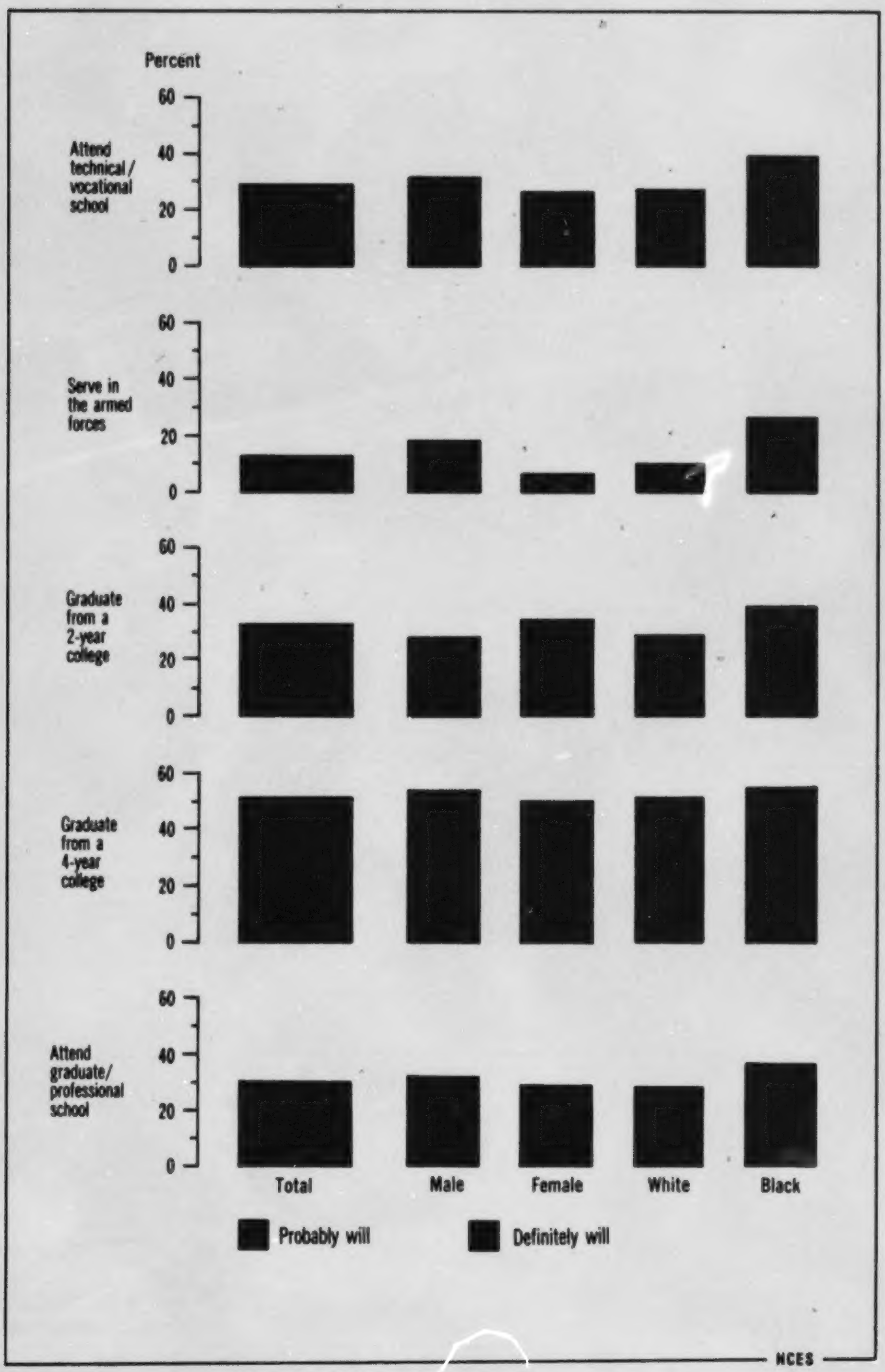


Table 1.6
Highest academic degree planned by college freshmen, by sex: 1970 and 1979

Highest degree planned	All students		Men		Women	
	1970	1979	1970	1979	1970	1979
			Percentage distribution			
Total	100.0	100.0	100.0	100.0	100.0	100.0
None	2.1	1.8	1.6	1.7	2.7	1.8
Associate (A.A. or equivalent)	7.6	7.3	5.4	5.8	10.3	8.9
Bachelor's degree (B.A., B.S.)	38.3	36.5	33.9	35.4	43.6	37.5
Master's degree (M.A., M.S.)	31.2	32.3	31.5	32.4	30.8	32.1
Doctor's degree (Ph.D., Ed.D)	9.7	8.7	12.3	9.4	6.5	8.0
Medicine (M.D., D.O., D.D.S., or D.V.M.)	4.6	6.2	6.7	7.0	2.2	5.5
Law (LL.B. or J.D.)	3.5	4.4	5.6	5.2	.9	3.5
Divinity (B.D. or M.Div.)	.4	.6	.6	.8	.1	.4
Other	2.6	2.4	2.4	2.4	2.9	2.3

SOURCE: American Council on Education, Cooperative Institutional Research Program, *National Norms for Entering College Freshmen—Fall 1970; The American Freshman: National Norms for Fall 1979.*

Chart 1.6
Highest Academic Degree Planned by College Freshmen

The highest degree planned by over 50 percent of college freshmen women was a bachelor's degree or a lower level in 1970; but by 1979, more than 50 percent were planning higher academic degrees. A smaller proportion of men planned higher degrees in 1979 than in 1970.

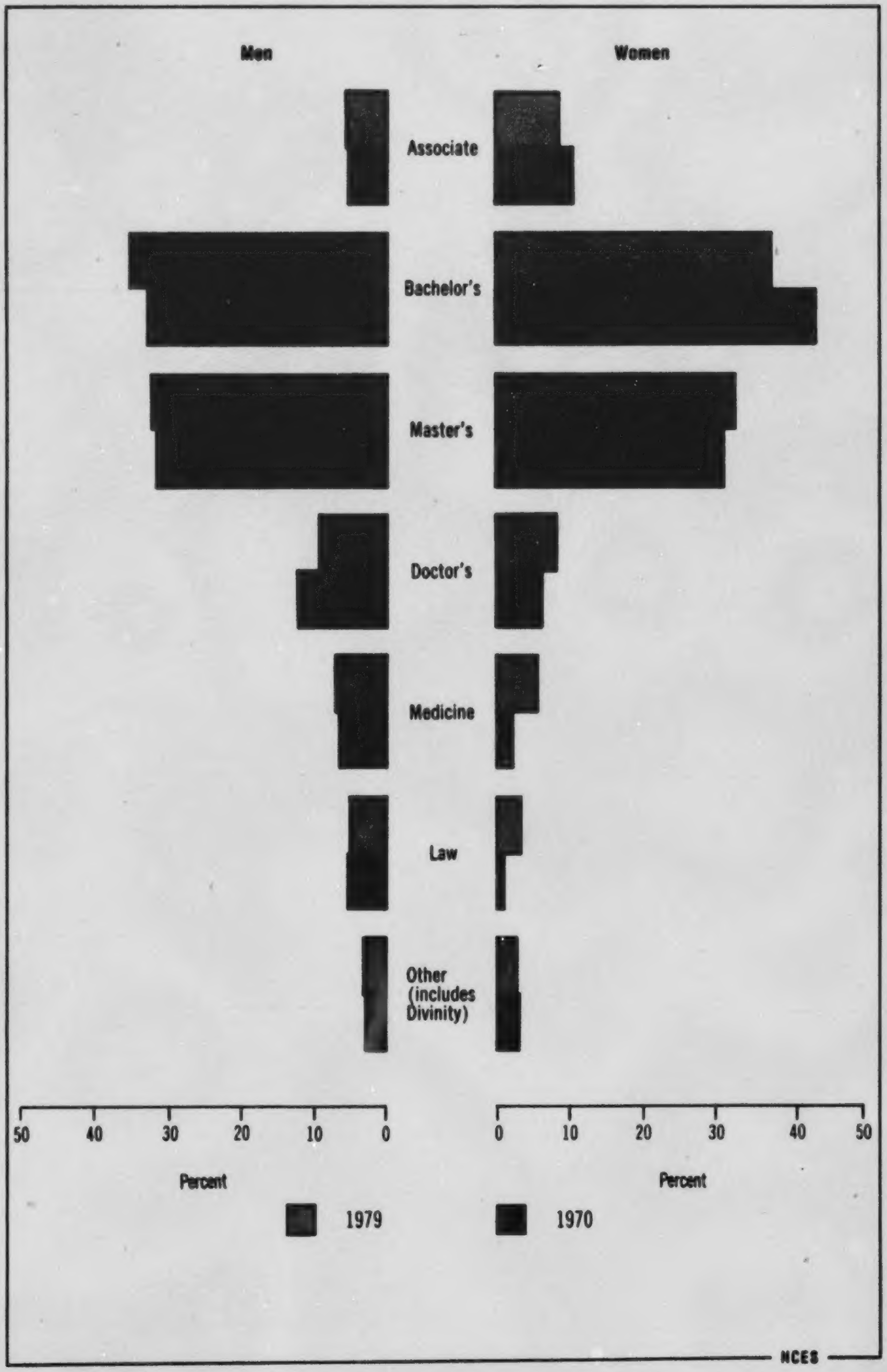


Table 1.7

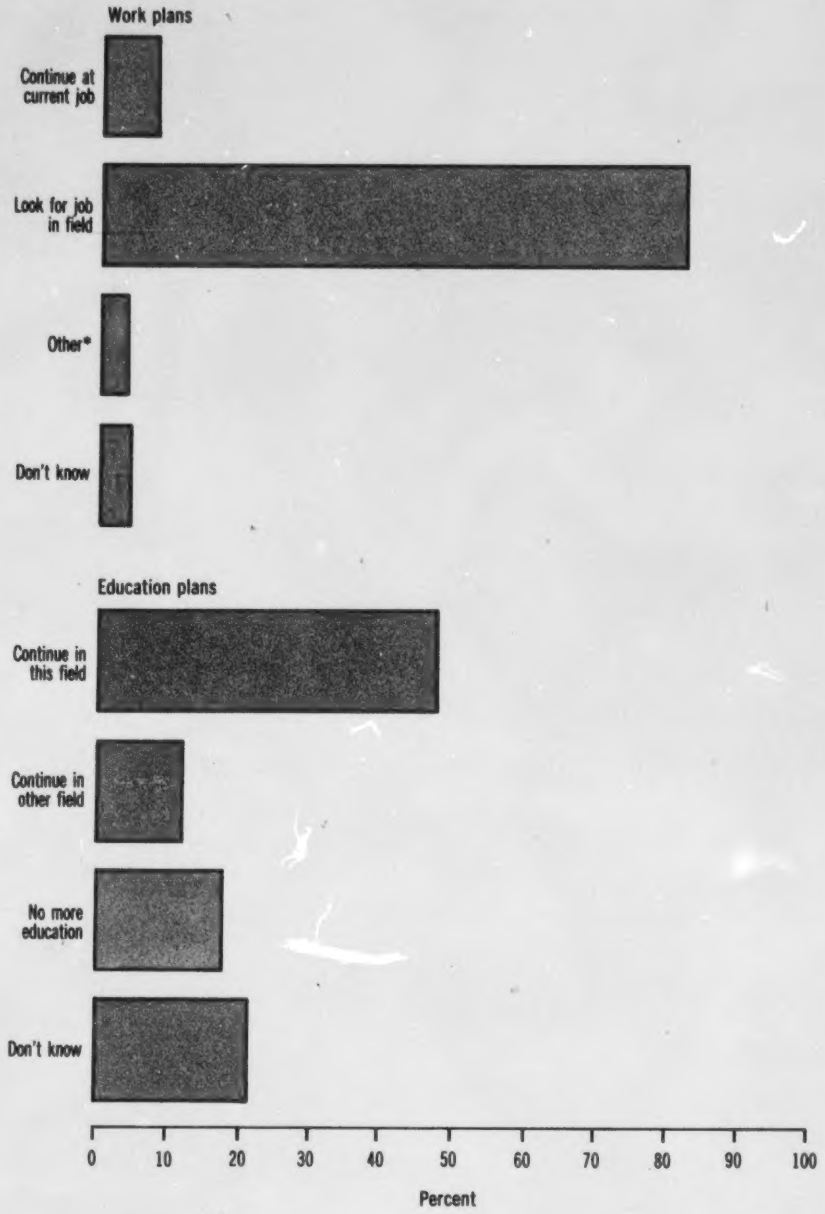
Work and education plans of students in noncollegiate postsecondary schools with occupational programs: Aggregate United States, 1979

Work plans	Percentage distribution	Education plans	Percentage distribution
Total	100.0	Total	100.0
Continue at current job	9.6	Continue in this field	47.9
Look for job in field	82.7	Continue in other field	12.2
Look for job not in field	1.7	No more education	18.4
Enter military service	.3	Don't know	21.5
Don't plan to work	1.3		
Don't know	4.4		

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 1.7
Plans of Students in Occupational Programs

Eighty-three percent of students enrolled in occupational programs planned to look for work in the field of their programs; nearly half planned to continue their education in the same field.



*Includes: Look for job not in field (1.7%), Enter military service (.3%), Don't plan to work (1.3%)

Table 1.8
Average number of minutes per day spent teaching elementary school subjects in self-contained classes, by grade level: 1977

Subject	Grade level		
	K–3	4–6	Total K–6
	Average number of minutes		
Mathematics	41	51	44
Science	17	28	20
Social studies	21	34	25
Reading	95	66	86

SOURCE: Weiss, Iris R, Research Triangle Institute, *Report of the 1977 National Survey of Science, Mathematics, and Social Studies Education*, prepared for National Science Foundation, 1978.

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Chart 1.8
Average Minutes Per Day Spent Teaching Elementary School Subjects

Elementary school teachers spent less time teaching science than other subjects. The time they spent on mathematics was second only to reading.

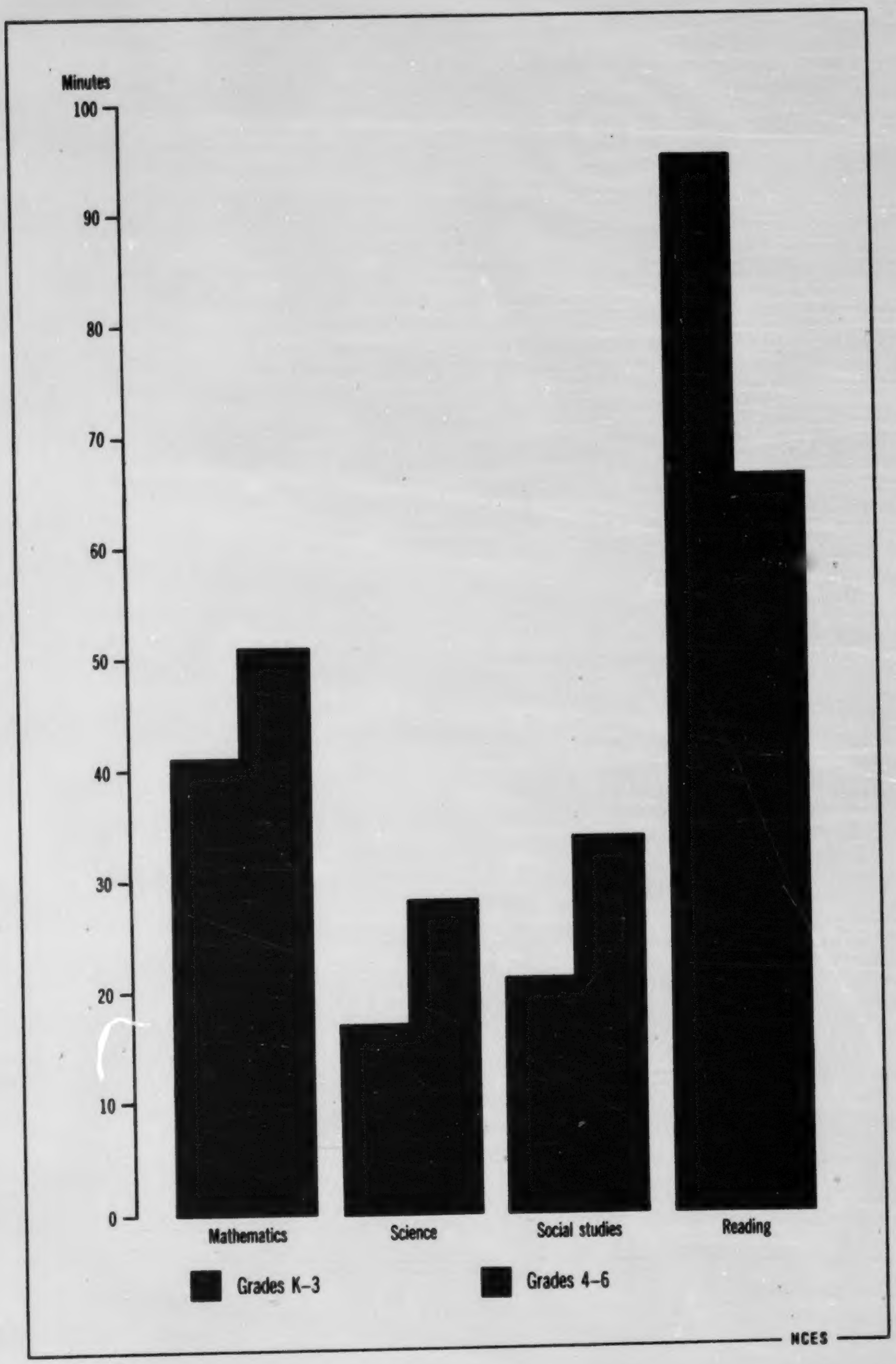

Table 1.9
Science and mathematics course offerings and enrollments in public schools, by grade level: 1977

Courses	Percent of schools offering course		Enrollment	
	All schools with grades 7–9	All schools with grades 10–12	All schools with grades 7–9	All schools with grades 10–12
Science courses:				
General sciences	**78**	**60**	**7,168,270**	**2,191,355**
Earth science	28	37	1,353,392	684,856
Life science	22	18	1,266,472	295,164
Physical science	23	40	1,327,121	688,838
Biology I	**30**	**95**	**1,648,355**	**2,953,466**
Biology II	10	47	179,204	303,717
Zoology	0	3	8,243	58,943
Physiology	1	5	15,540	50,529
Ecology	2	16	82,855	169,691
Chemistry I	**23**	**89**	**568,989**	**1,196,140**
Chemistry II	3	23	32,279	136,954
Physics I	22	78	279,204	511,611
Physics II	1	5	8,256	53,564
Astronomy	2	6	14,147	46,375
Mathematics courses:				
General math	**98**	**88**	**9,833,060**	**3,065,956**
Business math	17	52	328,168	572,864
Elementary algebra	54	88	2,402,266	2,028,693
Advanced algebra	27	87	669,440	1,194,279
Any algebra[2]	**56**	**97**	**3,568,561**	**3,713,196**
Geometry	33	97	1,087,768	1,814,528
Any geometry[3]	**33**	**97**	**1,091,575**	**1,833,453**
Trigonometry	14	54	168,363	459,541
Probability, statistics	3	7	32,863	39,700
Computer math	7	25	123,157	152,525
Advanced senior math	16	56	139,750	225,407
Calculus	7	31	52,337	105,349

[1] Categories are not discrete. Schools with grades 7–9 include those with one or more of the grades 7–9 and one or more of the higher grades. Schools with grades 10–12 include those with one or more of the grades 10–12 and one or more of the lower grades.

[2] Includes elementary algebra, advanced algebra, and courses with equivalent or similar names.

[3] Includes geometry and courses with equivalent or similar names.

SOURCE: Weiss, Iris R., Research Triangle Institute, *Report of the 1977 National Survey of Science, Mathematics, and Social Studies Education*, prepared for the National Science Foundation, 1978.

Chart 1.9
Science and Mathematics Course Offerings and Enrollments in Secondary Schools

General science, followed by Biology I and Chemistry I, were the science courses most likely to be offered in secondary schools. General math, algebra, and geometry were the mathematics courses most likely to be offered.

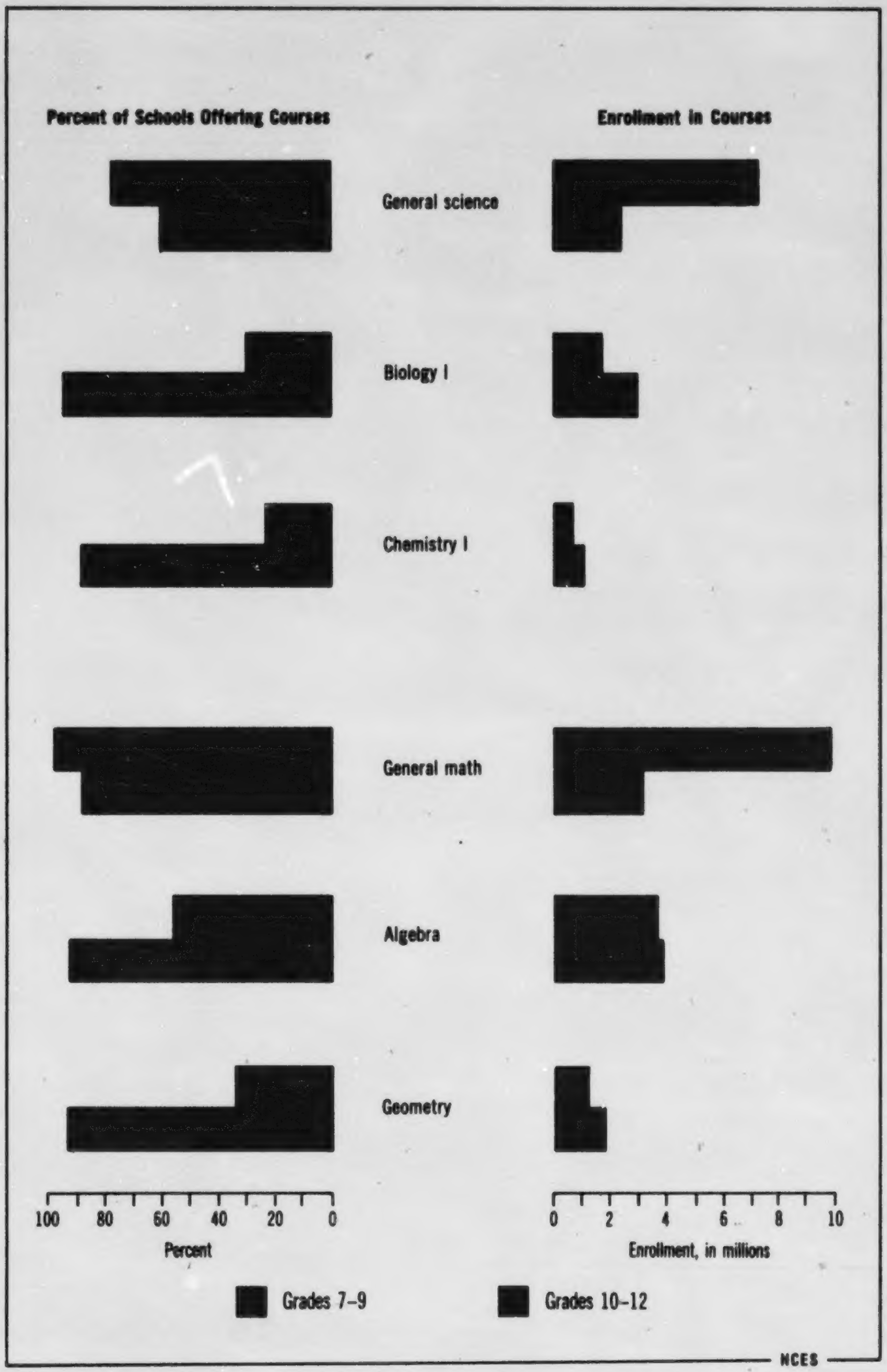

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Table 1.10
Number of years of study and percent of college-bound seniors taking honors courses, by subject: 1978–79

Item	Mathematics		Biological sciences		Physical sciences		English		Foreign languages		Social studies	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Percent taking:												
No courses	0.4	0.5	5.9	4.5	6.6	12.1	0.3	0.2	15.7	11.0	0.7	0.7
1 year	1.7	3.0	60.9	60.4	26.8	38.8	1.2	1.0	14.0	12.8	2.3	2.4
2 years	9.3	16.9	25.4	27.7	36.4	33.5	1.7	1.2	38.0	34.7	16.7	18.6
3 years	24.1	34.2	5.2	5.2	23.7	12.9	7.0	6.5	18.9	21.5	38.8	41.3
4 years	52.6	39.0	1.9	1.5	4.9	2.0	80.5	79.5	10.6	15.2	35.2	31.4
5 or more years	11.9	6.4	.8	.6	1.7	.6	9.2	11.7	2.8	4.8	6.2	5.7
Mean number of years, by sex	3.62	3.27	1.39	1.41	1.98	1.56	3.94	3.99	2.03	2.32	3.24	3.17
Mean number of years, total	**3.44**		**1.40**		**1.76**		**3.97**		**2.18**		**3.21**	
Percent who took honors courses	**14.5**		**9.4**		**9.8**		**14.5**		**7.3**		**8.8**	

SOURCE: Admissions Testing Program of the College Board, *National Report, College-Bound Seniors*, 1979.

Chart 1.10
Years of Study and Percent of College-Bound Seniors Who Took Honors Courses

The majority of college-bound seniors took more than 3 years of mathematics and at least 1 year each of physical and biological sciences. English and mathematics were the two courses most likely to be taken as honors courses.

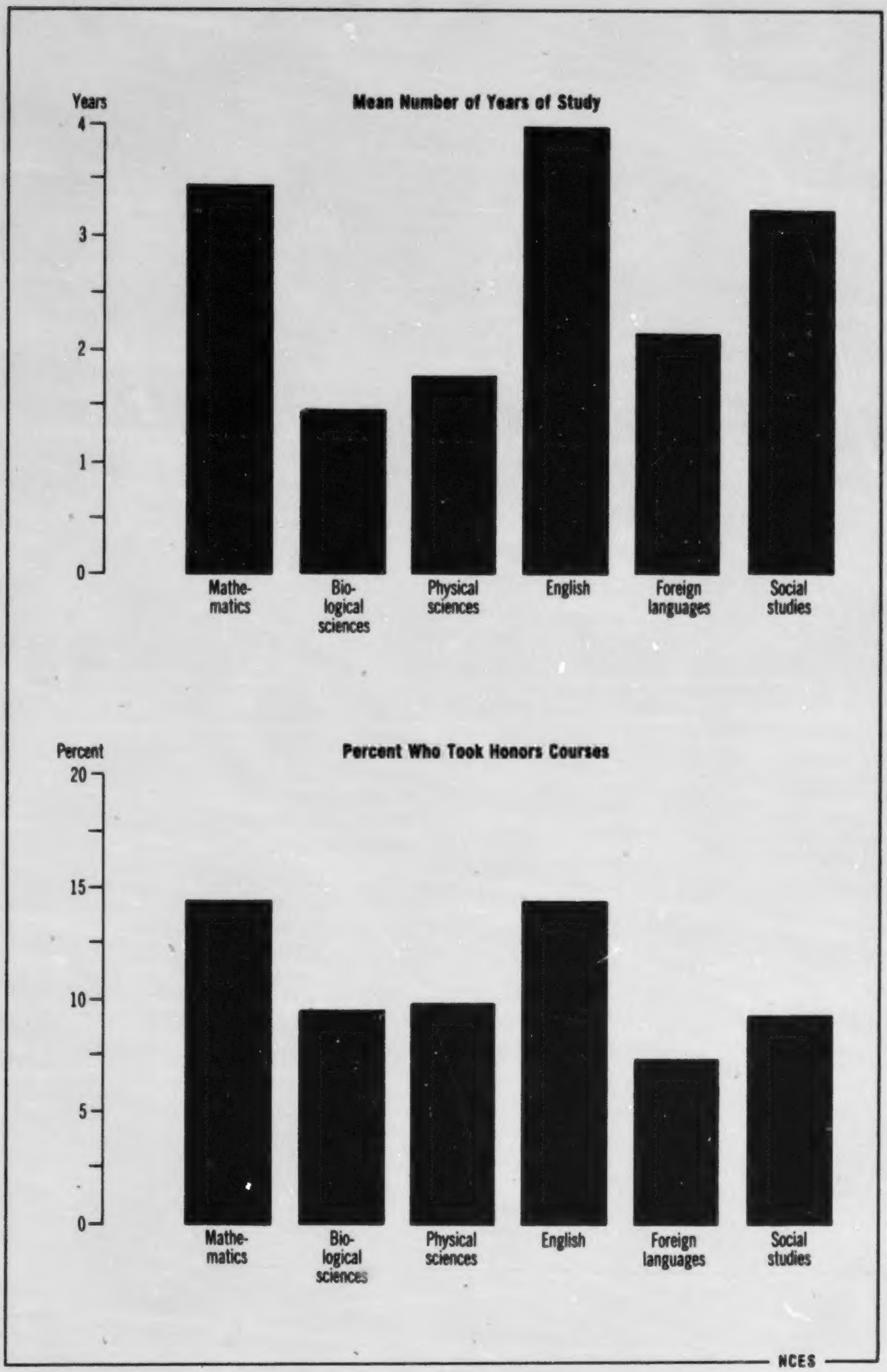

Table 1.11
Associate degrees[1] conferred by institutions of higher education, by type of curriculum: 1970–71 to 1977–78

Type of curriculum	1970–71	1971–72	1972–73	1973–74	1974–75	1975–76	1976–77	1977–78
All curriculums	252,610[2]	292,119[2]	317,008[2]	343,924	360,171	391,454	406,377	412,246
Arts and sciences or general programs	144,883	158,283	161,051	164,659	166,567	175,185	171,631	167,036
Occupational curriculums	107,727[2]	133,836[2]	155,957[2]	179,265	193,604	216,269	234,746	245,210
Science or engineering related	57,913	71,226	83,057	94,211	102,677	110,154	119,071	125,222
Data processing technologies	6,611	7,386	6,952	6,425	6,167	6,532	7,416	8,233
Health sciences/paramedical technologies	21,269	28,775	38,909	46,420	52,566	55,777	59,614	62,030
Mechanical/engineering technologies	24,258	27,551	28,555	30,865	32,198	35,640	37,967	40,780
Natural science technologies	5,775	7,514	8,641	10,501	11,746	12,205	14,074	14,179
Non-science and non-engineering related	49,515	62,505	72,066	85,054	90,927	106,115	115,675	119,988
Business and commerce	39,323	46,185	50,252	58,824	62,492	73,059	80,873	86,204
Public service	10,192	16,320	21,814	26,230	28,435	33,056	34,802	33,784
				Indexes (1970–71 = 100)				
All curriculums	**100**	**116**	**126**	**136**	**143**	**155**	**161**	**163**
Arts and sciences or general programs	100	109	111	114	115	121	118	115
Occupational curriculums	100	124	145	166	180	201	218	228
Science or engineering related	**100**	**123**	**143**	**163**	177	**190**	**206**	**216**
Data processing technologies	100	112	105	97	93	99	112	124
Health sciences/paramedical technologies	100	135	183	218	247	262	280	292
Mechanical/engineering technologies	100	114	118	127	133	147	156	168
Natural science technologies	100	130	150	182	203	211	244	246
Non-science and non-engineering related	100	126	146	172	184	214	234	242
Business and commerce	100	118	128	150	159	186	206	219
Public service	100	160	214	257	279	324	342	332

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[1] Data include only degrees of at least 2 years but less than 4 years of work beyond high school.

[2] Includes occupational curriculums below the technical or semi-professional level: 299 in 1970–71, 105 in 1971–72, and 834 in 1972–73.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Associate Degrees and Other Formal Awards Below the Baccalaureate*, and unpublished tabulations.

Chart 1.11
Associate Degrees Awarded in Science and Engineering Occupational Curriculums and in All Curriculums

Associate degrees conferred in science and engineering occupational curriculums grew at a faster rate than degrees awarded in all curriculums between 1971 and 1978.

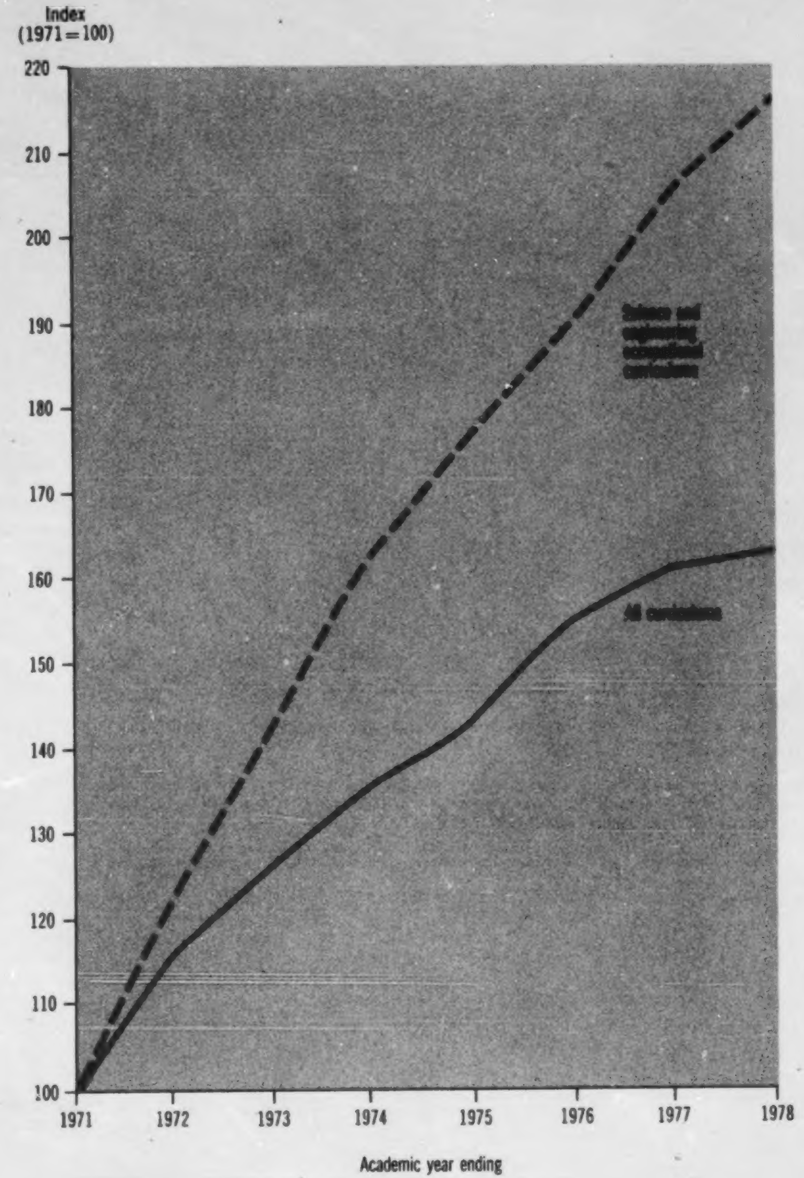

Table 1.12
Earned degrees conferred in mathematics and science by institutions of higher education, by level of degree: Academic year ending, 1956 to 1978

Field and level of degree	Academic year ending 1956	1958	1960	1962	1964	1966	1968	1970	1972	1974	1976	1978
	Number	Indexes (1956 = 100)										
All degrees												
Bachelor's[1]	308,812	117	127	135	162	168	205	257	287	306	300	298
Master's	59,258	110	116	143	170	237	298	352	425	468	526	526
Doctor's	8,903	**100**	**110**	**130**	**163**	**205**	**259**	**336**	**375**	**380**	**383**	**361**
Mathematics[2]												
Bachelor's	4,646	149	245	314	401	430	506	591	510	466	344	270
Master's	898	137	196	298	401	531	616	628	579	538	430	178
Doctor's	235	**105**	**129**	**168**	**254**	**333**	**403**	**526**	**480**	**439**	**364**	**343**
Physical Science[3]												
Bachelor's	11,629	123	138	136	150	147	167	184	178	182	185	198
Master's	2,655	114	127	148	172	188	207	224	237	228	206	210
Doctor's	1,667	**100**	**110**	**127**	**147**	**183**	**216**	**259**	**246**	**218**	**206**	**188**
Biological Science[4]												
Bachelor's	12,423	115	125	136	183	217	256	301	300	389	437	415
Master's	1,759	105	122	150	187	241	313	330	347	372	374	387
Doctor's	1,025	**110**	**118**	**130**	**158**	**205**	**272**	**321**	**356**	**336**	**331**	**323**
Engineering												
Bachelor's	26,219	134	144	132	145	136	143	170	195	192	177	212
Master's	4,724	123	152	189	229	290	321	330	359	326	346	347
Doctor's	610	**106**	**129**	**198**	**278**	**378**	**481**	**603**	**602**	**543**	**462**	**400**

[1] From 1952 through 1964, first-professional degrees are included with bachelor's degrees.
[2] Includes degrees conferred in statistics.
[3] Includes degrees in astronomy, chemistry, geology, metallurgy, physics, and other physical sciences.
[4] Includes degrees in anatomy, bacteriology, biochemistry, biology, botany, entomology, physiology, zoology, and other biological sciences.

NOTE: Although a strenuous effort has been made to provide a consistent series of data, minor changes have occured over time in the way degrees are classified and reported. Any degrees classified in early surveys as "first-professional" are included above with bachelor's degrees; any degrees classified as "second-professional" or "second-level" are included with master's degrees.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, reports on *Earned Degrees Conferred*, various years, and unpublished tabulations.

Chart 1.12
Doctor's Degrees Conferred by Institutions of Higher Education

Doctor's degrees conferred in biological and physical sciences did not increase as fast as all doctor's degrees and started to decrease after 1972. The rate of increase of mathematics and engineering doctor's degrees far outpaced that of all doctor's degrees, but began to decline after 1970.

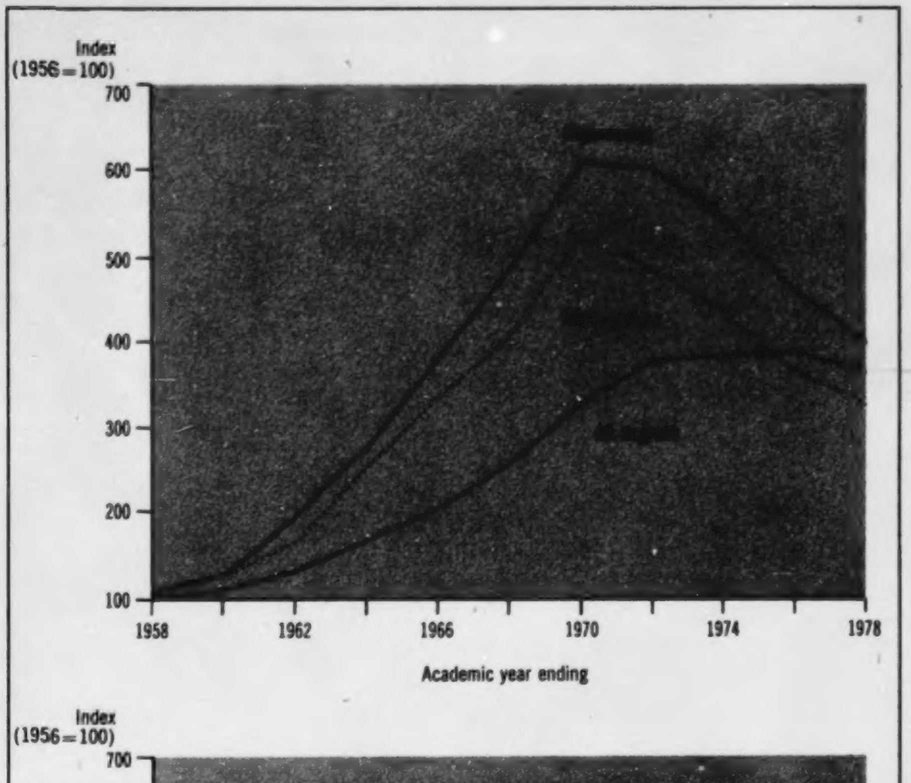

Table 1.13
Basic research expenditures in colleges and universities by source and Federal obligations for basic research in universities and colleges, by field of science: 1960 to 1978

Basic research expenditures, by source[1]: 1960–1978

Year	Current dollars				Constant 1972 dollars[2]			
	Total	Federal government	Industry	All other sources	Total	Federal government	Industry	All other sources
	(In millions)							
1960	$ 433	$ 299	$24	$110	$ 631	$ 435	$35	$160
1961	536	382	25	129	774	551	36	186
1962	659	481	25	153	934	682	35	217
1963	814	610	25	179	1,137	852	35	250
1964	1,003	767	25	211	1,378	1,055	34	290
1965	1,138	879	26	233	1,531	1,183	35	314
1966	1,303	1,009	27	267	1,697	1,314	35	348
1967	1,457	1,124	31	302	1,844	1,422	39	382
1968	1,649	1,251	36	362	1,997	1,515	44	438
1969	1,711	1,279	39	393	1,973	1,475	45	453
1970	1,796	1,296	40	460	1,966	1,419	44	504
1971	1,914	1,349	46	519	1,993	1,405	48	541
1972	2,022	1,421	53	548	2,022	1,421	53	548
1973	2,055	1,456	57	542	1,942	1,376	54	512
1974	2,153	1,522	61	570	1,856	1,312	53	491
1975	2,410	1,694	72	644	1,895	1,332	57	506
1976	2,547	1,827	72	648	1,904	1,366	54	484
1977[3]	2,787	1,992	82	713	1,968	1,407	58	503
1978[4]	3,165	2,265	85	815	2,074	1,481	56	537

Federal[5] obligations for basic research, by field: 1973–77

Year	Life sciences	Psychology	Physical sciences	Environmental sciences	Mathematics and computer sciences	Engineering	Social sciences
	(In millions)						
1973	$366.3	$29.0	$177.3	$ 80.5	$40.9	$ 75.5	$45.7
1974	430.7	29.6	177.1	89.2	36.3	76.6	41.8
1975	451.5	29.3	201.6	102.6	41.6	94.4	40.1
1976	504.6	28.8	211.0	106.7	45.7	101.4	44.4
1977	566.5	32.6	241.1	144.1	54.9	123.5	51.9
	Average growth rate						
1973–75	11.0	0.5	6.6	12.9	0.9	11.8	−6.4
1975–77	12.0	5.5	9.4	18.5	14.9	14.4	13.8
1973–77	11.5	3.0	7.8	15.7	7.6	13.1	3.2

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[1] More than 50 percent of the total basic research expenditures are accounted for by universities and colleges. Because data on individual non-Federal sources of basic research expenditures are not collected by survey, but are estimated by the National Science Foundation, the allocation of expenditures among the industry and other sources columns may be only rough approximations.

[2] Gross national product implicit price deflators used to convert current dollars to constant 1972 dollars.

[3] Preliminary.

[4] Estimated.

[5] The five agencies included in the tabulations represent approximately 93 percent of all agencies' obligations in 1977. These are Department of Agriculture, Department of Defense, Department of Health, Education, and Welfare, Department of Energy, and the National Science Foundation.

SOURCE: National Science Board, *Science Indicators 1978*, 1979.

Chart 1.13
Basic Research Expenditures in Universities and Colleges

In constant dollars, support for basic research in universities and colleges grew rapidly between 1960 and 1968, but then began to level off. The most rapid growth of Federal government support was in the area of environmental sciences; the largest proportion was for life sciences.

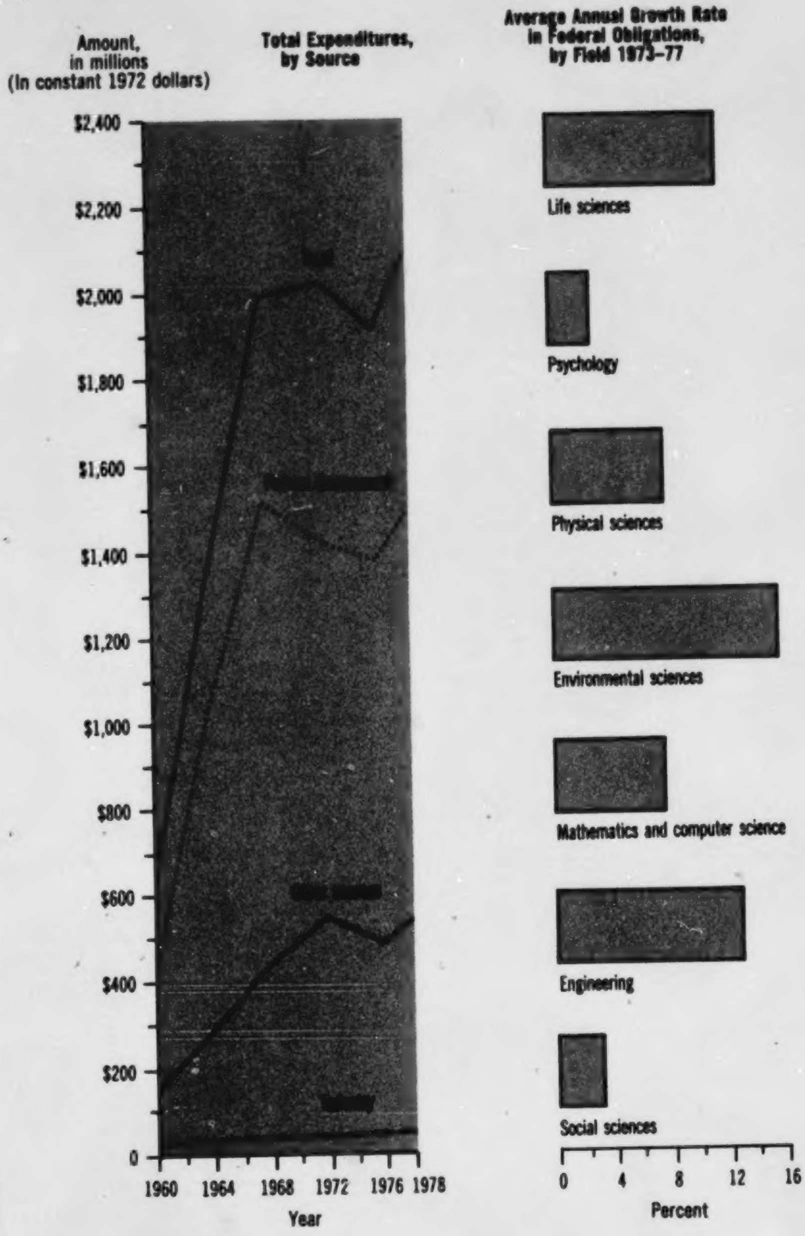

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Table 1.14

Current expenditures (in constant 1978–79 dollars[1]) of educational institutions, with projections, by instructional level and control of institution: 1969–70 to 1988–89

Year	Total	Elementary/secondary schools[2]			Institutions of higher education[3]		
		Total	Public	Private[4]	Total	Public	Private
				(In billions)			
1969–70	$114.4	$ 77.5	$69.5	$ 8.0	$36.9	$23.0	$13.9
1970–71	120.7	81.4	73.1	8.3	39.3	25.1	14.2
1971–72	123.2	81.7	73.5	8.2	41.5	26.7	14.8
1972–73	127.3	83.7	75.5	8.2	43.6	28.3	15.3
1973–74	128.5	84.6	76.3	8.3	43.9	29.0	14.9
1974–75	131.5	86.4	77.8	8.6	45.1	30.2	14.9
1975–76	135.3	88.5	79.5	9.0	46.8	31.5	15.3
1976–77	137.4	88.9	79.4	9.5	48.5	32.6	15.9
1977–78	138.5	89.4	80.0	9.4	49.1	32.8	16.3
				Projection			
1978–79	140.9	91.0	81.3	9.7	49.9	33.3	16.6
1979–80	140.7	90.6	80.6	10.0	50.1	33.7	16.4
1980–81	140.3	89.9	79.8	10.1	50.4	34.0	16.4
1981–82	140.9	89.9	79.6	10.3	51.0	34.5	16.5
1982–83	142.3	90.2	80.0	10.2	52.1	35.4	16.7
1983–84	144.8	91.8	81.0	10.8	53.0	36.1	16.9
1984–85	147.1	93.4	82.4	11.0	53.7	36.7	17.0
1985–86	150.3	95.9	84.5	11.4	54.4	37.3	17.1
1986–87	154.3	99.0	87.1	11.9	55.3	38.0	17.3
1987–88	158.9	102.4	90.0	12.4	56.5	38.9	17.6
1988–89	163.0	105.4	92.5	12.9	57.6	39.8	17.8

[1] Adjustment to elementary/secondary current expenditures was made using the Implicit Price Deflator based on State and local purchases of goods and services. Adjustment to higher education expenditures was made using the Consumer Price Index adjusted for the academic year.

[2] Excludes expenditures for residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, and federally operated installations. Includes current expenditures of public elementary/secondary school systems for community services, summer schools, community colleges, and adult education.

[3] Includes expenditures for subcollegiate departments of institutions of higher education and expenditures for interest from current funds. Excludes transfers from current funds.

[4] Estimated on the basis of expenditures per teacher in public elementary/secondary schools.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1988–89*, 1980.

Chart 1.14
Current Expenditures of Educational Institutions

Current expenditures of educational institutions continued to increase throughout the 1970's, even when adjusted for inflation. These are projected to stabilize during the first half of the 1980's, and then begin to increase.

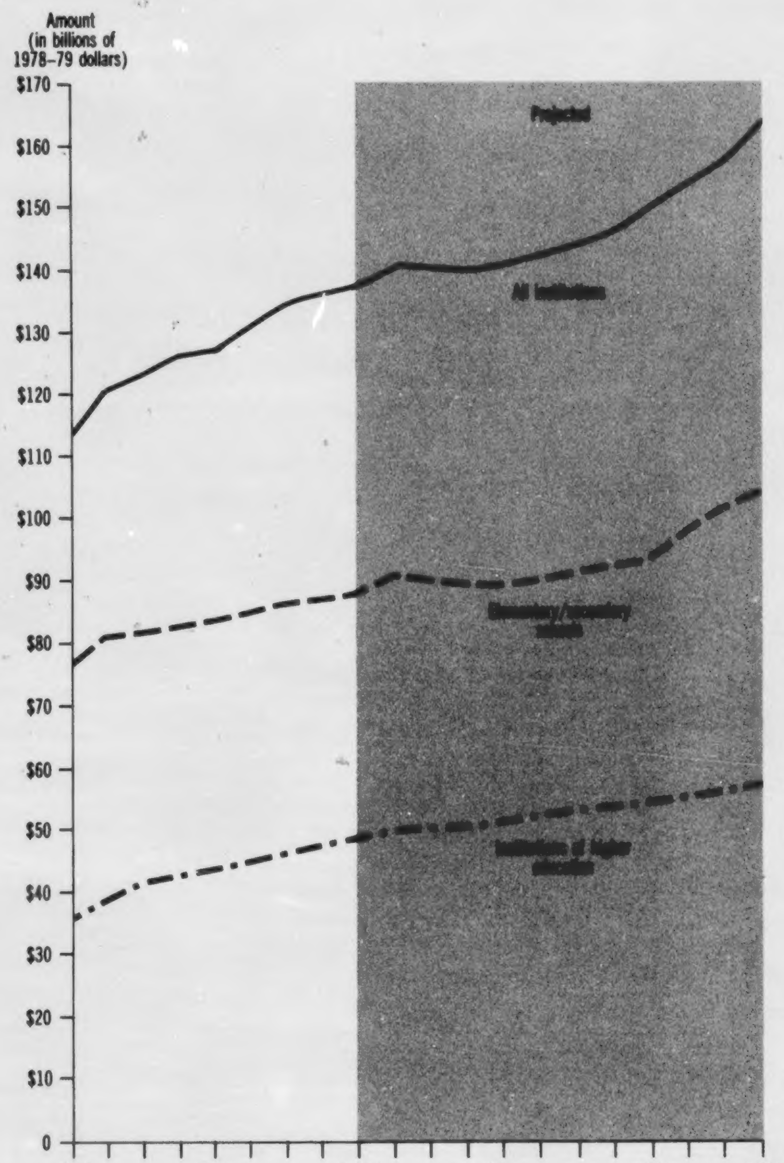


Table 1.15
Gross national product (GNP) related to total expenditures for education, health, and defense: 1949 to 1978

Calendar year	Gross national product	Expenditures for education[1] Total	Expenditures for education[1] As a percent of GNP	Expenditures for health[2] Total	Expenditures for health[2] As a percent of GNP	Expenditures for defense Total	Expenditures for defense As a percent of GNP
			Amounts in billions				
1949	$ 258.0	$ 8.8	**3.4**	$ 11.6	**4.5**	$13.2	**5.1**
1951	330.2	11.3	**3.4**	14.0	**4.2**	33.5	**10.1**
1953	366.1	13.9	**3.8**	15.7	**4.3**	48.6	**13.3**
1955	399.3	16.8	**4.2**	17.7	**4.4**	38.4	**9.6**
1957	442.8	21.1	**4.8**	21.1	**4.8**	44.0	**9.9**
1959	486.5	24.7	**5.1**	24.9	**5.1**	45.6	**9.4**
1961	523.3	29.4	**5.6**	28.9	**5.5**	47.0	**9.0**
1963	594.7	36.0	**6.1**	33.5	**5.6**	50.3	**8.5**
1965	688.1	45.4	**6.6**	40.5	**5.9**	49.4	**7.2**
1967	796.3	57.2	**7.2**	50.7	**6.4**	71.5	**9.0**
1969	935.5	70.4[3]	**7.5**	64.8	**6.9**	76.3	**8.2**
1971	1,063.4	83.0[3]	**7.8**	81.3	**7.6**	70.2	**6.6**
1973	1,306.6	98.0	**7.5**	99.1	**7.6**	73.5	**5.6**
1975	1,528.8	121.6	**8.0**	131.5	**8.6**	83.7	**5.5**
1977	1,889.5	140.4	**7.4**	170.0	**9.0**	94.3	**5.0**
1978	2,106.6	151.5	**7.2**	192.4	**9.1**	99.5	**4.7**

[1] Includes expenditures of public and nonpublic schools at all levels of education (elementary, secondary, and higher education). Expenditures are for school year beginning in designated calendar year.
[2] Aggregate United States.
[3] Revised since originally published.

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Statistics of State School Systems*; *Financial Statistics of Institutions of Higher Education*; Social Security Administration, *Compendium of National Health Expenditures Data*; Council of Economic Advisors, *Economic Report of the President*.

Chart 1.15
Expenditures as a Percent of Gross National Product (GNP)

Expenditures for education, as a percent of GNP, remained fairly constant over the past decade, while those for health increased and those for defense decreased.

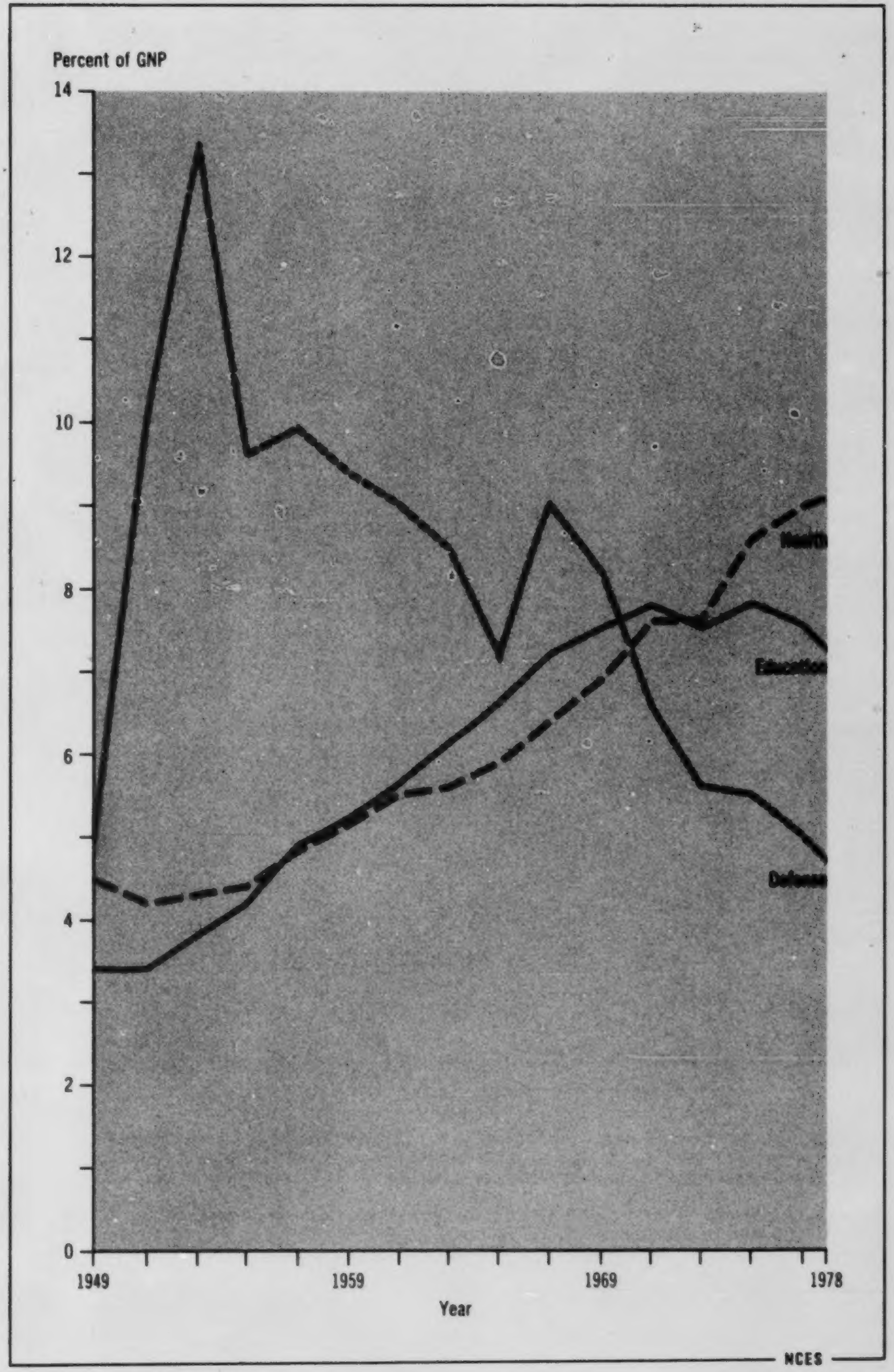


Table 1.16

Governmental general expenditure[1] by function and level of government: Fiscal years, 1958 to 1978

Item	Fiscal year					
	1958	1962	1966	1970	1974	1978
All governments:						
Total general expenditure, in millions	**$115,714**	**$149,159**	**$189,406**	**$275,017**	**$378,925**	**$564,338**
	Percentage distribution					
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
National defense and international relations	**39.9**	**35.7**	**32.1**	**30.6**	**23.0**	**20.3**
Education	**14.5**	**15.3**	**18.4**	**20.3**	**21.5**	**21.0**
Highways	**7.5**	**7.0**	**6.8**	**6.1**	**5.3**	**4.4**
Public welfare	**3.3**	**3.5**	**3.7**	**6.4**	**8.2**	**9.6**
Health and hospitals	**3.9**	**4.1**	**4.4**	**4.9**	**5.7**	**5.9**
All other	**30.9**	**34.3**	**34.6**	**31.7**	**36.3**	**38.8**
Federal government:						
Total general expenditure, in millions	$75,698	$96,689	$119,679	$166,942	$223,161	$348,000
	Percentage distribution					
Total	100.0	100.0	100.0	100.0	100.0	100.0
National defense and international relations	60.9	55.0	50.8	50.5	39.0	33.0
Education	2.1	1.8	3.8	5.3	6.0	5.6
Highways	2.1	3.0	3.4	3.0	2.2	1.9
Public welfare	2.4	2.6	3.2	6.2	8.6	10.5
Health and hospitals	1.6	2.0	2.3	2.9	3.1	3.0
All other[2]	30.9	35.6	36.5	32.1	41.2	45.9
State governments:						
Total general expenditure, in millions	$23,537	$31,281	$46,090	$77,642	$119,891	$179,802
	Percentage distribution					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Education	31.1	34.3	38.6	39.8	39.1	38.8
Highways	28.4	25.4	22.5	17.4	13.2	10.3
Public welfare	13.6	13.7	13.1	17.0	18.8	19.9
Health and hospitals	8.1	7.5	7.0	6.9	7.0	7.7
All other	18.8	19.1	18.8	18.9	21.8	23.4
Local governments:						
Total general expenditures, in millions	$29,403	$39,831	$53,680	$82,582	$125,557	$185,308
	Percentage distribution					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Education	44.9	44.8	47.7	46.8	44.7	44.0
Highways	10.4	9.4	7.7	6.5	5.9	5.4
Public welfare	6.4	6.5	6.8	8.1	7.9	6.8
Health and hospitals	5.6	5.6	5.6	6.0	6.9	6.9
All other	32.7	33.7	32.2	32.6	34.8	36.8

[1] Includes direct and intergovernmental expenditures. Federal, State, and local total general expenditures will not add to total for all governments because of inclusion of intergovernmental expenditure. Intergovernmental expenditures are those made in the form of grants-in-aid or shared taxes

[2] Includes general revenue sharing: represented 2 percent of Federal expenditure in 1978 and most was used by State and local governments for education.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *1972 Census of Governments*, Vol. 6, No. 4: Historical Statistics on Government Finances and Employment, 1974; *Governmental Finances*, various years.

Chart 1.16
Governmental General Expenditures

Education held the largest single share of governmental expenditure in 1978. Governmental expenditure for defense and highways decreased in proportion to those for education, welfare, and hospitals between 1958 and 1978.

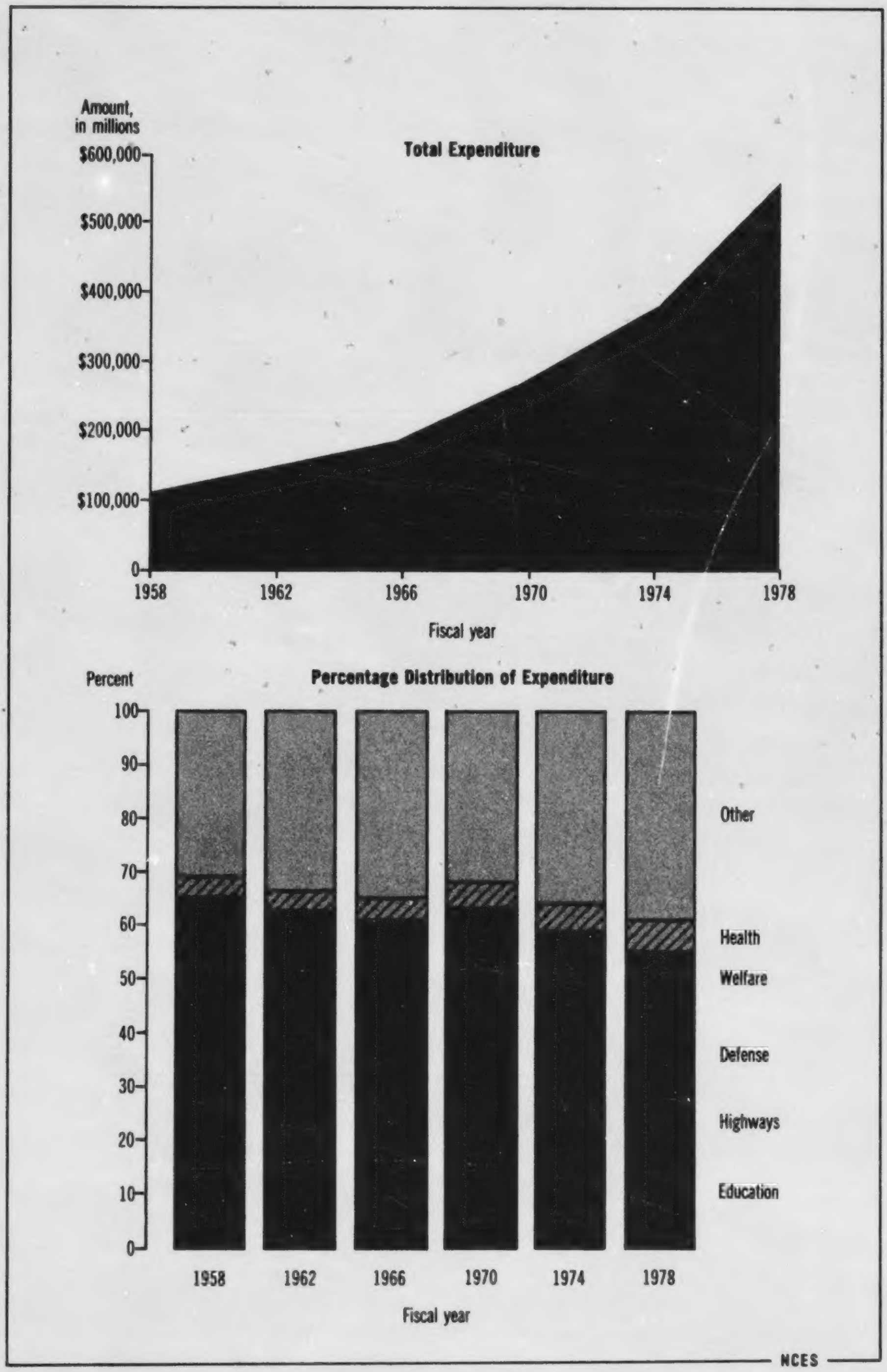


Table 1.17
State and local expenditure for education-related construction in constant 1977–78 dollars[1], by function: Fiscal years 1951–52 to 1977–78

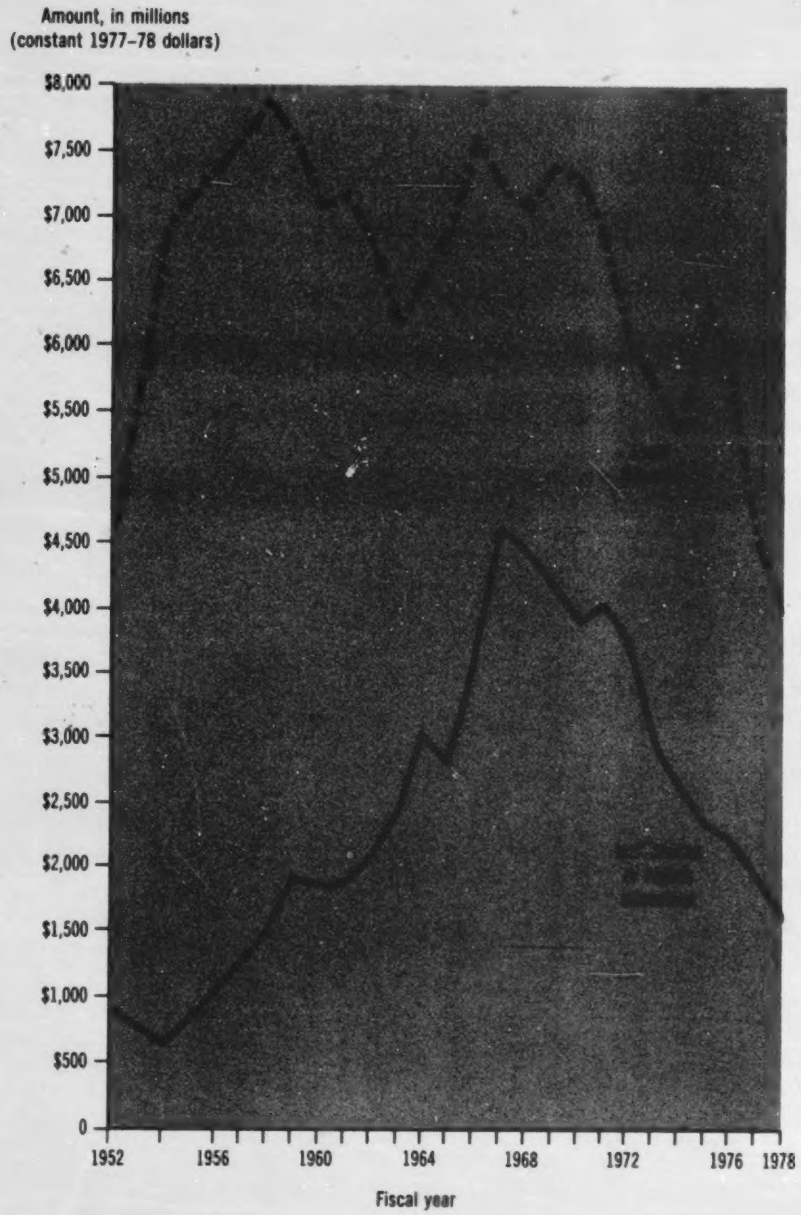
Fiscal year	All education	Institutions of higher education	Local schools	Other
		(In millions)		
1951–52	$5,596	$879	$4,648	$73
1953–54	7,693	687	6,953	53
1955–56	8,417	1,012	7,358	47
1956–57	8,843	1,200	7,589	55
1957–58	9,395	1,449	7,884	59
1958–59	9,629	1,920	7,670	39
1959–60	8,866	1,731	7,083	55
1960–61	9,016	1,752	7,190	74
1961–62	8,942	2,036	6,837	69
1962–63	8,652	2,389	6,176	87
1963–64	9,728	3,013	6,586	132
1964–65	9,912	2,775	6,942	195
1965–66	11,482	3,545	7,636	300
1966–67	12,197	4,591	7,256	352
1967–68	11,932	4,484	7,058	390
1968–69	11,956	4,214	7,398	348
1969–70	11,652	3,946	7,285	423
1970–71	11,377	4,039	6,813	523
1971–72	10,275	3,761	6,070	443
1972–73	9,045	2,946	5,662	437
1973–74	8,470	2,664	5,385	422
1974–75	9,270	2,361	6,362	547
1975–76	8,694	2,282	5,831	582
1976–77	6,972	1,982	4,631	358
1977–78	5,873	1,610	3,952	311

[1] Expenditures adjusted using the American Appraisal Company Construction Cost Index.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *1972 Census of Governments*, Vol. 6 Topical Studies No. 4: Historical Statistics on Governmental Finances and Employment, 1974; *Governmental Finances*, various years.

Chart 1.17
State and Local Expenditure for Education-Related Construction

State and local expenditure for education-related construction were lower in 1978 than in any year since 1952.



NCES

This chapter presents trends and developments that characterize elementary/secondary education at the beginning of the 1980's. It begins with a look at declining enrollments, the predominant feature of this period, and then examines expanded programs for students in need of special services. Against a backdrop of enrollment decline, cost containment, and teacher surplus, it highlights the changing status and concerns of teachers in the current period. The chapter concludes by examining recent assessments of student achievement and State and local provisions to improve student performance. A later chapter will focus on financial equity in elementary/secondary education, a further concern of this period.

Enrollment Trends and Participation in Federal Programs

From 1970, the peak enrollment year, to 1979, the student population in elementary/secondary education declined by almost 4.7 million (entry 2.1). Between 1979 and 1984, the lowest enrollment year projected, the number of students is expected to decline by another 3 million. Thus, from the highest enrollment year to the lowest year, a 15 percent reduction in enrollment is anticipated. Smaller numbers are expected through 1984 in the lower grades, K–8, and through 1989 in the upper grades, 9–12. Most of this decline is projected in the public sector while nonpublic school enrollment is expected to remain fairly constant.

An increase in enrollment after 1984 is expected as larger age groups of young children enter elementary school. The increased size of the elementary school-age population is assumed because of the growing number of women of child-bearing age. Even if the birth rate falls below its current low level, some growth in the number of births is still projected because of the absolute numbers of women of child-bearing age. Any growth in births for the next few years will produce an increase in enrollment in the 1980's. This growth of the school population, however, is expected to be gradual and to fall short of previous enrollment highs throughout the decade.

Declines from the peak year enrollment of 1970 were not uniform across the States (entry 2.2). In 10 States, enrollments in public schools actually continued to grow. These States included Alaska, Texas, New Hampshire, Florida, and 6 Mountain States. As discussed in the preceding chapter, these States had substantial inmigration during the 1970's. Enrollments decreased at a rate equal to or slower than the 7 percent national rate of decline in 21 States, located primarily in the South, Far Northwest, and New England. Twenty other States experienced enrollment declines of more than 7 percent since 1970. Those States with the most rapid enrollment drops were situated in the Middle Atlantic and North Central regions, areas that experienced significant outmigration during this decade. In some States, enrollment fell more than twice as fast as the National rate, representing a reduction in student population of more than 15 percent in 8 years. A 15 percent reduction in National enrollment is not projected until 1984.

Participation in Federal categorical programs is widespread among the Nation's school districts (entry 2.3). Categorical funds are distributed to districts serving particular populations in need of special services, for example: Title I Part A of the Elementary and Secondary Education Act (ESEA) for the educationally disadvantaged; Public Law (P.L.) 94–142 for the school-age handicapped; and Title VII of ESEA for students with limited English proficiency. Because the allocation of categorical funds is based on population characteristics, the distribution of funds across districts follows population patterns. Title I and P.L. 94–142 funds are widely distributed across districts because most districts have some proportion of their total enrollments in poverty or handicapped. Title I reached the largest number of districts, 13,381, or 87 percent of all districts in the 1977–78 school year. Federally funded aid to the handicapped was fairly extensive as well; 57 percent of the districts participated in P.L. 94–142. Title VII funds are focused on particular locales, areas with concentrations of students with limited English proficiency. In the 1977–78 school year, Title VII assistance was the least widely used, with only 4 percent of the districts participating. Only 973 of the 15,297 districts, or 6 percent of the total, did not take part in any of these 3 programs. An estimated 40 percent served students through only one program, while 53 percent provided services through more than one program.

Although designed to serve particular target groups, these programs are likely to overlap at least at the district level and possibly at the school and student level. Almost all of the districts providing services through two or more programs offered services funded by Title I and P.L. 94–142 in the 1977–78 school year. Fewer districts provided services funded by all three programs or by Titles I and VII. Because areas with high concentrations of limited English proficient students are also likely to have high concentrations of poverty and low performing students, no school district received Title VII assistance by itself; it was always in combination with Title I.

The degree of participation in these categorical programs was positively associated with district enrollment size. Participation in multiple programs was least in districts with fewer than 2,500 students, with 46 percent participating, rising to 72 percent in districts with 2,500 to 9,999 students and to 85 percent in those with enrollments of 10,000 or more. In addition, participation in the Title VII program was concentrated in the largest districts. Twenty-two percent of the largest districts received Title VII assistance compared to 3 percent of the other districts.

Almost 5 million students in fiscal year 1978 received compensatory education through Title I funding (entry 2.4). By far the largest proportion of these students was enrolled in the 1st to 6th grades, accounting for almost three-fourths of the Title I participants. Nearly 1 in every 5 students enrolled in these grades participated in Title I. Students in the upper grades represented about 18 percent and preschoolers, about 8 percent of the total participants.

Considerable variation existed among States in the proportion of the school population participating in Title I programs. Because Title I participation is tied to the proportion of the school population in poverty, States with higher concentrations of students from low-income backgrounds have higher Title I participation rates. For the Nation as a whole, over 11 percent of all students received compensatory education through Title I. This proportion ranged from less than 5 percent in Alaska to more than 20 percent in Mississippi. Southern States tended to have higher participation in Title I compared to the rest of the Nation as a result of this region's greater concentrations of children from low-income families. However, across the Nation the poorest counties and districts often received less money than did richer areas for each Title I participant because Title I allocations are weighted by the State average expenditure per student and very poor areas are often located in low-spending, poorer States.

Title I funds are intended for districts with high concentrations of students from low-income families and, at the district level, are designed to pay for services for low-achieving students. The number of children living in poverty helps determine the amount of funding a district receives and the eligibility of a particular school to have a program or receive funding. At the school level, administrators and teachers select participants for programs based on the students' educational need without regard to poverty status.

The effectiveness of this formula in reaching the educationally deprived can be gauged by examining the types of schools likely to receive funds. Data from the 1975–76 school year show that participation of elementary schools in Title I is highly related to the composition of the school's student body (entry 2.5). Schools with high concentrations of students from low-income families, low reading achievers, or minority students were most likely to receive Title I funds, usually in conjunction with other compensatory funds. Participation in compensatory programs rose from 51 percent of low poverty schools to 90 percent of high poverty schools. To a similar extent, 84 percent of schools with a majority of students reading below grade level and 85 percent of schools with predominantly minority enrollments participated in compensatory programs in 1975–76. Schools with the largest concentrations of both students from low-income families and low achievers had the highest participation rates; 91 percent of the schools received Title I funds and an additional 6 percent received some other form of compensatory aid.

At the level of the individual student, the relationship continues to hold that the most educationally deprived are more likely to receive compensatory services than students unimpaired by low economic background or poor school performance. Although the economic background of the total student body figures into the school's eligibility and allocations, schools receiving Title I funds select program participants on the basis of poor performance regardless of economic background. Yet, because poverty and low achievement are closely associated, students who are from poverty backgrounds and are also low achievers, are the most likely to participate in Title I and other compensatory programs. In a 1976–77 study of student participation in compensatory programs, the educationally deprived were defined as those students whose families were living below the poverty level and who scored in the bottom third on standardized tests. According to the study, a majority among this group participated overall with 39 percent in Title I and another 13 percent in other compensatory programs (entry 2.6). Among a second group which could be termed educationally deprived, low achievers living above the poverty level, 24 percent were selected for Title I and 15 percent for other programs. A third group, students living in poverty but performing adequately in school, were less likely to participate with 16 percent in Title I and 7 percent in other programs. Only 14 percent of students in a fourth group, those living above the poverty line and performing adequately, received any form of compensatory services. It should be noted that the poverty and performance criteria used in this study were fairly restrictive, in that students living just above the poverty line and performing below the median would not be considered educationally deprived and would be classified in the non-low income/non-low achievement group.

In 1975, Congress passed Public Law (P.L.) 94–142 that requires a "free appropriate public education" for all handicapped children. The provisions of this law cover the handicapped population 3 to 21 years old whose specific impairments necessitate special education and such related services as counseling, physical therapy, and transportation. Placements of handicapped children are to be in the least restrictive environment, that is, wherever and whenever possible, handicapped children are to be placed in classes with nonhandicapped children. Handicapped children are also to participate to the greatest extent possible with nonhandicapped children in nonacademic activities such as recess, lunch, and other school functions. These provisions are in addition to earlier legislation in P.L. 89–313 which provides grants to the States to fund special education for children in State-owned or operated schools. These two acts are designed to serve two distinct populations, P.L. 94–142, for children in the regular school system and P.L. 89–313, for children in State controlled facilities.

By statute, the State count of the handicapped population eligible for P.L. 94–142 funds is limited to 12 percent of the State's population of 5- to 17-year-olds. Data from the 1978–79 school year show that the proportion served was well below the 12 percent ceiling (entry 2.7). Specifically, 7.4 percent of the school-age population was served under P.L. 94–142 and another .5 percent received special education under P.L. 89–313 in State-owned or operated facilities in 1978–79. In all, almost 4 million children were served through both Federal programs combined. Children with speech impairments represented the largest group served, about a third of the total handicapped. The learning disabled were almost equally represented, accounting for somewhat less than a third of the total. Under 1 million mentally retarded children were served although they comprised about half of the population served in State controlled facilities through P.L. 89–313. Children with visual or hearing handicaps were the smallest groups served. The proportion of handicapped children served is expected to increase in the 1980's.

Staffing Trends and the Status of Teachers

Fluctuations in the size of the teaching staff in elementary/secondary schools tend to follow enrollment changes by a few years. Whereas the national enrollment peaked in 1970, the total number of classroom teachers continued to rise slightly each year until 1978 (entry 2.8). The number is expected to decline to 2,357,000 in 1982 and then begin increasing, reaching an all-time high of 2,501,000 in 1988.

During the 1970's, a stable teaching staff and declining enrollment in elementary schools resulted in decreasing student-teacher ratios. In 1978 at the elementary school level, there were 3 fewer public school students and 5 fewer nonpublic school students for each teacher than in 1970. Smaller Catholic school representation among nonpublic elementary schools contributed to smaller student-teacher ratios in that student-teacher ratios in Catholic schools traditionally have been much higher than in other nonpublic schools. At the secondary school level, there were 2 fewer students per teacher in public schools, while student-teacher ratios remained stable in nonpublic schools. These trends have meant that by the end of the 1970's, differences between public and nonpublic schools in student-teacher ratios had disappeared and differences between levels had diminished significantly.

Underlying the projections of classroom teachers in the 1980's is the assumption that the decline in student-teacher ratios will not continue at as fast a rate as in the previous period. Given that total enrollment is expected to decline through 1984, the number of classroom teachers is projected to decline also. The most substantial decrease is expected among public secondary school teachers because enrollment at this level is projected to continue to decline throughout the decade. Between 1979 and 1988, a 14 percent reduction in public secondary school classroom staff is expected. This decline is expected during the same period in which the number of elementary school staff is projected to rise in response to increasing enrollments at this level.

The total demand for additional elementary/secondary school teachers includes first-time and returning teachers needed to respond to enrollment changes, lower pupil-teacher ratios, and staff attrition. From 1969 to 1973, the cumulative demand for additional school teachers was estimated at 990,000 and during the next 5-year period, 1974 to 1978, the total demand dropped to an estimated 819,000 (entry 2.9). For the current 5-year period, 1979 to 1983, the demand for additional teachers is expected to decrease further to 622,000, though for the following 5-year period, 1984 to 1988, it is projected to increase to 861,000. Taken cumulatively, about 1,483,000 new teachers or returnees to the profession are expected to be hired during the next 10 years, about 326,000 fewer teachers than were hired during the preceding 10 years.

The supply of additional teachers consists of newly qualified teaching graduates and former teaching graduates not currently employed as teachers. Some of these former teaching graduates are returning to teach; others have never held teaching positions. Supply data are only available on the newly qualified and thus considerably underestimate the total supply of eligibles. If the total demand exceeds the supply of new graduates, shortages would not necessarily be indicated because a reserve pool of formerly qualified eligibles could make up the difference. The number of new teacher graduates increased from 264,000 in 1967 to 317,000 in 1972. From 1972, the number decreased each year reaching 190,000 in 1978. As a percent of bachelor's degree recipients, new teacher graduates declined from 36 percent in 1969 to 21 percent in 1978.

Taking the supply of newly qualified teaching graduates as a percent of the total demand provides a conservative estimate of the surplus of eligibles. The early 1970's experienced the greatest oversupply; in one year, 1971, the supply was 90 percent larger than the demand. The late 1970's showed signs of labor market adjustment to lower demand. Although the supply is expected to continue to decline into the 1980's, the demand is estimated to fall faster with the continued drop in secondary school enrollments. Not until 1985 is the trend expected to reverse with the supply of newly qualified teaching graduates falling short of demand. On the basis of these comparisons, it appears that the job outlook for new teaching graduates may improve starting in the mid-1980's, and teacher shortages of new graduates may result in the late 1980's. However, as the job outlook for teachers continues to improve, it is unlikely that the ratio of new teacher graduates to all bachelor's degree recipients will decrease substantially below the current level. In addition, the reserve pool of teachers should be more than adequate to make up for the fairly small deficits between new teacher graduates and the demand for additional teachers foreseen for the late 1980's.

The length of time a worker is employed at the same job may suggest occupational stability and at the same time, economic insecurity in the labor market. A tight job market restricts new job searches among the currently employed and closes off occupations with the least hiring potential to new labor force entrants. Fewer workers entering the occupation tends to raise the number of median years on a job, while an influx of new workers lowers the median years. An older work force also tends to remain at the same job for longer periods because of seniority and tenure, while a younger work force may be more flexible in changing employment.

This measure is particularly relevant in discussing the status of teachers. Compared to most professional, technical, and kindred workers in 1978, teachers had one of the longest periods of time in their current jobs (entry 2.10). In 1978, male teachers had remained on their current jobs a median of 6.5 years, compared to 4.8 years for all male professional, technical, and kindred workers. Female teachers had been on the same job for a median of 4.7 years, compared to 3.6 years for all female professional, technical, and kindred workers. When these figures are compared with data from 1973, a fundamental change is suggested. In 1973, both male and female teachers had median years on their current job similar to all professional, technical, and kindred workers. Less than half of a year separated teachers from other professionals. However, from 1973 to 1978, the length of employment on the same job increased appreciably for teachers but remained the same or declined in other professional occupations.

Further evidence of the tightened employment market for teachers is suggested by the changing age distribution of teachers. Teachers at the entry level, those under 25 years old, comprised 16.4 percent of the teaching force in 1968; this proportion had diminished to 9.8 percent by 1978. The smaller proportion indicates a drop in new hires beginning in the early 1970's. At the other end of the spectrum, among teachers 55 years old and over, there was a similar drop suggesting earlier retirement. The only age group to expand during this period was teachers, 25 to 34 years old. These teachers were originally hired during the peak enrollment period and remained in the teaching force during the period of decline.

While the aging of the teaching staff should contribute to higher salaries, slackened demand should work to nullify this trend. Inflation and higher fixed charges resulted in increased expenditures at the same time that declining enrollment fueled the argument for cost containment. During the 1970's, average salaries of teachers rose annually but from the 1972–73 school year, did not keep pace with the rate of inflation (entry 2.11). When adjusted to 1978–79 dollars, average salaries prior to 1972–73 were at least $1,000 higher than salaries in 1978–79. The decreasing earning power of teachers is expected to continue into the early 1980's. Not until 1989 are teachers' salaries in constant dollars projected to run as high as salaries before the slack period of teacher demand.

Although teachers lost earning power in the 1970's, they gained significant noncompensation provisions in their teaching contracts. An analysis of change in teacher contracts conducted by the Rand Corporation suggests that collective bargaining gains followed a distinct pattern into the mid-1970's. According to data extracted from contracts before 1970 and between 1970 and 1975, bargaining initially concerned salary and fringe benefits, then working conditions and job security, and lastly issues of educational policy (entry 2.12).

Because of their central importance, grievance procedures were incorporated into 70 percent of all teacher contracts by 1970. Between 1970 and 1975, 13 percent more contracts added such provisions. Large proportional gains between 1970 and 1975 in certain other provisions reflect changing teaching conditions. The provision governing teacher's aides took on added significance with the expansion of Title I aid. Teacher instructional committees became bargaining items once working condition items were attained. When faculties faced actual threats of reduction, procedures to govern layoffs gained significance. It is not clear why regulation of assignment should have diminished in apparent importance, but perhaps the teacher surplus made the faculty more amenable to reassignment outside of subject or grade.

Thus, during the first half of the 1970's, teachers gained increased influence over staffing and supervision policies. According to the Rand researchers, limitations on class size was perhaps the most dramatic gain, but a voice in the numbers and functions of aides and greater control over curricular and disciplinary matters signified an important qualitative change. Taken together these trends suggest somewhat reduced latitude for management in staffing and policymaking as well as higher costs stemming from increased staff-student ratios. The increased stress on seniority, when combined with the decline in hiring occasioned by falling enrollments, again reflects the aging of the teacher force.

Student Performance and Provisions for Coursework and Competency Testing

The concern with student performance and preparedness for adulthood is as central to the current period as enrollment decline. Part of this emphasis on student achievement stems, in fact, from the smaller numbers of students and lower student-teacher ratios characteristic of this period. Some researchers have anticipated higher graduation rates and student performance as the pressure on the schools to accommodate large quantities of students has subsided. Part of this emphasis on achievement is also attributable to concern with school accountability and cost containment. To some extent, tighter school budgets have narrowed the focus of elementary/secondary education to the acquisition of basic skillls. Measures of student graduation, attendance, and performance suggest the extent to which students receive a basic education and acquire fundamental and advanced skills.

The high school graduation rate serves as a conventional indicator of students' exposure to learning. In the future, with the spread of competency testing, it may more accurately measure the extent to which high school students have acquired fundamental skills for adulthood. Indications are that schools graduate about three-fourths of the relevant age group each year, a proportion that has remained essentially unchanged over the past 10 years. The ratio of high school graduates to 18-year-olds rose steadily during the 1950's and the early 1960's (entry 2.13). However, the ratio fell slightly during the 1970's, from a high of 75.9 percent in 1969 and no rise in the ratio is projected throughout the 1980's. Various trends support the assumption that each year, one-fourth of all 18-year-olds will not graduate. Many 18-year-olds who fail to graduate leave school well before the 11th grade. The majority of these dropouts are unlikely to re-enroll or take the high school equivalency examination. Furthermore, if plans to implement competency standards for graduation are followed, more students may fail to graduate. With no change in proportion and a decline in secondary school enrollment projected, the number of students graduating high school is expected to decrease into the late 1980's. From the peak year, 1977, to the lowest year, 1985, the number is expected to drop by half a million. Again, most of this drop is expected in the public sector. The number of female graduates is expected to continue to be slightly larger than that of male graduates throughout this period.

Some analysts have suggested that attendance rates are as appropriate as graduation rates for measuring students' exposure to a learning environment. Like graduation rates over the last 10 years, attendance rates in the public schools have remained unchanged. According to average daily attendance (ADA) data supplied by the States, about 8 percent of the total student body was absent daily from the schools in the 1978–79 school year, about the same as in 1969–70 and only 2 percentage points less than in 1959–60. Some observers suggest that average daily attendance statistics are inflated because some States use ADA to allocate school revenues and a few States, notably California, include excused absences in ADA. If ADA is inflated, the residual 8 percent absentee rate is an underestimate. Yet even if attendance rates are overestimated, they tend to be much lower in large city school districts than the national average (entry 2.14). In the 1978–79 school year, the combined average attendance rate of large city schools was at least 4 percentage points below the national average. Of the 17 largest city school districts that reported ADA, 14 had attendance rates lower than the national average. In 4 large city school districts, absenteeism ran twice as high as the Nation. Almost one-fourth of the public school students in New York City and Boston were absent from school each day. That one-tenth of the Nation's public school students are enrolled in the 20 largest cities suggests the magnitude of the problem.

Recent student assessments provide mixed results as to how well students perform in school on basic and advanced exercises and how well they may be prepared for adulthood. The National Assessment of Educational Progress's survey of mathematical achievement conducted in 1977–78, shows that many students had difficulty deciding which computational skills to use to solve word problems and that many lacked understanding of such concepts as fractions, decimals, and percents (entry 2.15). Assessment findings indicate that students appeared to have a good grasp of basic arithmetic facts and simple mathematical definitions. Most students could compute with whole numbers, although performance was lower for more complex multiplication and division exercises. Student performance was substantially lower on exercises in which they were asked to apply mathematical concepts to problem solving.

In each age group, those students from advantaged communities, with more highly educated parents, or enrolled in the grade appropriate for their age, scored appreciably higher than other students on all exercises. The highest level of mathematical coursework that the students had taken also significantly differentiated the scores of 17-year-olds. At least 30 percentage points separated the scores of 17-year-olds who had taken more than Algebra II from those of the same age group who had taken less than Algebra I.

Some analysts have suggested that these results reflect a narrower focus in the schools on basic skills acquisition. A concentration on the essentials may have detracted from a concern with advanced mathematical skills and problem solving abilities. This analysis is reinforced when 1978 scores are compared with 1973 scores on similar exercises. Assessment findings indicate that overall mathematics achievement declined from 1973 to 1978 (entry 2.16). Drops were most pronounced for older students; on the average, 17-year-olds performed 4 percentage points lower than in the earlier assessment, and 13-year-olds performed 2 percentage points lower. The decrease in 9-year-olds' performance was about 1 percentage point and not significant. Computational skills with whole numbers produced mixed results and problem-solving ability generally declined. Knowledge of metric terminology improved substantially between assessments, suggesting a greater emphasis in the schools.

Black students at ages 9 and 13 performed closer to the National average in the 1978 assessment than they did in 1973. Black 9-year-olds were the only group in the total assessment to improve significantly their scores over this period. While black 9-year-olds in 1973 were, on the average, 15 percentage points below the National level of performance, in the later assessment the gap narrowed to 10 percentage points below the National average. Performance of black 13-year-olds was unchanged while the National performance of all 13-year-olds significantly declined. The decline in performance of black 17-year-olds was consistent with National performance.

Although 1978 scores of male and female students were similar in the younger age groups, scores of female 17-year-olds were significantly below those of their male counterparts. These relationships remained essentially unchanged from the earlier assessment. The lower performance in mathematics of female 17-year-olds occurred in 1978, despite the fact that females improved their representation in advanced mathematics courses over this period.

In 1978 the National Assessment of Educational Progress conducted an assessment of consumer knowledge, skills, and attitudes of 17-year-old students. The assessment attempted to gauge how well students would perform in the various consumer roles of informed citizen, purchaser, earner, and investor. The exercises were developed on the premise that young persons require a broad knowledge about the economy and inflation, types of available protection, and personal financial management to operate and think effectively in the marketplace.

Students' performance was mixed—high in some areas and low in others, even within topics (entry 2.17). Students appeared fairly knowledgeable about consumer rights and responsibilities and about advertising and selling practices. On the topic of economics, an overwhelming majority of 17-year-olds chose the correct definition of inflation, yet few demonstrated an adequate understanding of the implications of inflation. When asked to choose the correct meaning of the "Consumer Price Index", more than half responded with "I don't know" and a third answered incorrectly.

Male 17-year-olds scored higher than their female counterparts on the combined exercises in the assessment. The higher performance of males was not, however, consistent across topics. For instance, males performed above the National level on exercises pertaining to contracts, economics, energy, finances, and mathematics, but they scored below the National level on behavior items and did not vary significantly from females in performance on consumer protection or purchases items.

Whites performed significantly better than the National average on all exercises. Their scores were appreciably higher than those of black students, with more than a 10 percentage point difference on all topics. Similarly, students whose parents had postsecondary educations performed above the National level in all of the areas. Large differences in performance were also evident by whether or not students were below the grade level appropriate for their age, the modal grade. Seventeen-year-olds who were enrolled below the 10th grade scored at least 21 percentage points lower and those in the 10th grade scored at least 10 percentage points lower than the National level on the total assessment. Students 1 year above the mode had the highest scores except on the topic of energy.

An examination of local and State education provisions shows the extent to which the schools attempt to provide fundamental skills by requiring coursework and standardized testing. School districts were much more likely to require more years of instruction and specific coursework in social studies than in mathematics or science, according to a 1978 National Science Foundation survey (entry 2.18). Three-fourths of school districts required more than 1 year of social studies for high school graduation, compared to one-third that stipulated more than 1 year in mathematics or science. Most districts, 86 percent, required one or more specific courses in social studies; these courses most commonly were United States history, required by 81 percent of districts, American government, by 34 percent, and world history, by 17 percent. Forty-nine percent of the districts required a specific course in science in grades 9–12 with general science, biology, and physical science the most frequently required courses. Forty percent of the districts required one or more specific mathematics courses, typically general mathematics or elementary algebra. The use of standardized tests was much more common in mathematics than in science or social studies. In each subject, standardized tests were more likely to be used in grades K–6 than in grades 7–12. Three major uses of such tests were for reporting results to individual teachers especially in lower grade mathematics, for student placement in remedial programs, and for reporting to parents.

At the State level, activities in minimum competency testing continued at a somewhat slower pace in 1979 as only two States were added to those with testing programs. Implementation in some active States also became involved with technical and legal complications. With the addition of Arkansas and Texas, 38 States were active in 1979 in implementing competency-based standards in the public schools (entry 2.19). Activities among the States varied considerably, not only by the stage of implementation but also by the governing body setting the standards, the grade levels and skills assessed, and the uses prescribed or prohibited. In 20 of the 36 States with minimum standards, State boards or departments of education were responsible for setting the standards. In 7 more, State agencies shared this responsibility with local districts and in the remainder, local districts were responsible. States were as likely to mandate testing in the upper elementary school grades as in the secondary school grades; 17 States had testing in the lower elementary grades, 3rd grade or below. Competency testing for high school graduation was the most frequently specified use, although for early exit it was the least prescribed. Eighteen States required testing for high school graduation, while 5 other States specifically prohibited testing for this purpose or for grade promotion. In a few States, notably Florida, competency testing for high school graduation was challenged in the courts, and the dispute has not been resolved. Among States with definite timetables for testing for high school graduation, about a half are expected to begin assessing their graduating classes by 1980.

Successful implementation of competency testing depends in part on its support from educators, parents, and students. In 1977, 1978, and 1979, the Institute for Social Research queried high school seniors about their opinions on competency testing (entry 2.20). Seniors were asked for their reactions to the idea of using standard tests as a requirement for high school graduation, or to permit early graduation as an option for 14-year-olds or 16-year-olds. During the interval from 1977 to 1979 there was an increase of about 10 percent in the proportion favoring testing as a graduation requirement—just over half the seniors in 1979 checked "agree" or "mostly agree." At the same time there was an increase in the already large majority who disapproved of early graduation.

The reactions of the 1979 seniors to such proposals varied depending on their plans for completing 4 years of college. Although the majority of both groups disagreed with the idea that competency tests should be available as a means for leaving school early, the college-bound were particularly strong in their disapproval. On the other hand, the majority of the college-bound favored such testing as a graduation requirement, whereas those not aiming for a college degree were about evenly divided on this issue. Support among high school seniors for competency testing suggests that students recognized the significance of assessing their preparedness for adulthood.

Table 2.1
Regular elementary/secondary day school enrollment, by grade level and control of school: Fall 1967 to fall 1989

Fall of year	Total K–12	Total K–8	Total 9–12	Public K–12	Public K–8	Public 9–12	Nonpublic K–12	Nonpublic K–8	Nonpublic 9–12
	(In thousands)								
1967	49,891	36,242	13,649	43,891	31,642	12,249	6,000	4,600	1,400
1968	50,744	36,626	14,118	44,944	32,226	12,718	5,800	4,400	1,400
1969	51,119	36,797	14,322	45,619	32,597	13,022	5,500	4,200	1,300
1970	51,309	36,677	14,632	45,909	32,577	13,332	5,400	4,100	1,300
1971	51,181	36,065	15,116	46,081	32,265	13,816	5,100	3,800	1,300
1972	50,744	35,531	15,213	45,744	31,831	13,913	5,000	3,700	1,300
1973	50,329	34,953	15,377	45,429	31,353	14,077	4,900	3,600	1,300
1974	50,053	34,521	15,532	45,053	30,921	14,132	5,000	3,600	1,400
1975	49,791	34,087	15,704	44,791	30,487	14,304	5,000	3,600	1,400
1976	49,316	33,606	15,710	44,316	30,006	14,310	5,000	3,600	1,400
1977	48,577	32,936	15,640	43,577	29,336	14,240	5,000	3,600	1,400
1978	47,611	32,055	15,556	42,611	28,455	14,156	5,000	3,600	1,400
	Projected								
1979	46,657	31,422	15,235	41,557	27,822	13,735	5,100	3,600	1,500
1980	45,796	30,989	14,807	40,696	27,389	13,307	5,100	3,600	1,500
1981	44,958	30,637	14,321	39,858	27,037	12,821	5,100	3,600	1,500
1982	44,111	30,395	13,716	39,111	26,795	12,316	5,000	3,600	1,400
1983	43,766	30,301	13,465	38,666	26,601	12,065	5,100	3,700	1,400
1984	43,591	30,128	13,463	38,491	26,428	12,063	5,100	3,700	1,400
1985	43,748	30,248	13,500	38,548	26,448	12,100	5,200	3,800	1,400
1986	44,080	30,651	13,429	38,780	26,851	11,929	5,300	3,800	1,500
1987	44,473	31,395	13,078	39,073	27,495	11,578	5,400	3,900	1,500
1988	44,974	32,259	12,715	39,374	28,259	11,115	5,600	4,000	1,600
1989	45,393	33,093	12,300	39,793	28,993	10,800	5,600	4,100	1,500

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1988–89*, 1980.

Chart 2.1
Kindergarten to 12th Grade Enrollment

Enrollment declines, mainly in the public sector, are anticipated through 1984 in the lower grades and through 1989 in the upper grades.

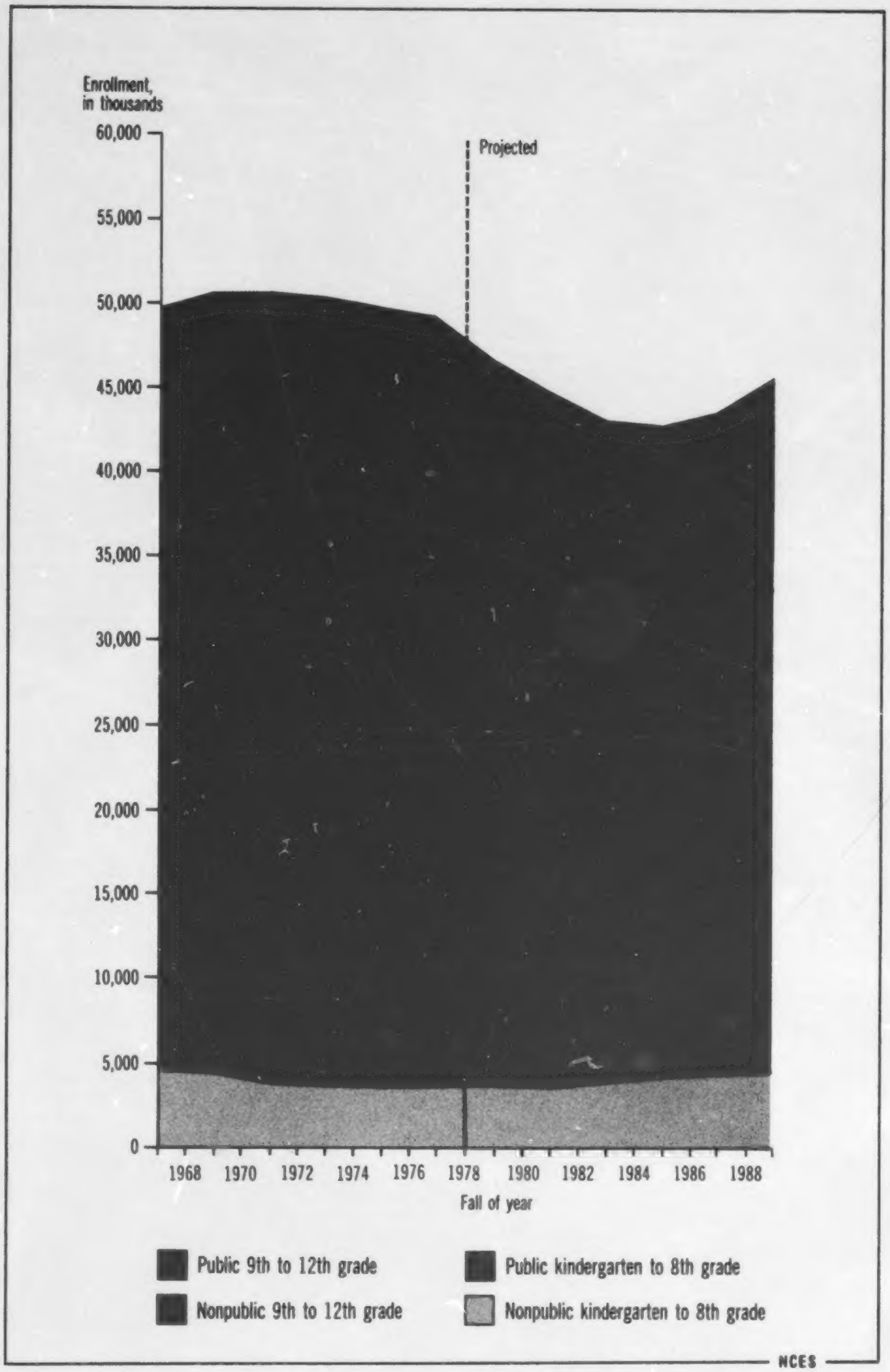


Table 2.2
Public regular elementary/secondary school enrollment, by grade level and State: Fall 1970 and fall 1978

State or other area	1970			1978		
	Total	Preprimary to 8th	9th to 12th	Total	Preprimary to 8th	9th to 12th
Total 50 States and D.C.	**45,909,088**	32,577,326	13,331,762	**42,611,000**	28,455,000	14,156,000
Alabama	**805,205**	569,547	235,658	**761,666**	509,616	252,050
Alaska	**79,845**	61,030	18,815	**90,728**	62,802	27,926
Arizona	**439,524**	313,697	125,827	**509,830**	349,695	160,135
Arkansas	**463,320**	329,750	133,570	**456,698**	313,738	142,960
California	**4,633,198**	3,230,905	1,402,293	**4,187,967**	2,728,637	1,459,330
Colorado	**550,060**	390,593	159,467	**558,285**	374,158	184,127
Connecticut	**662,205**	487,416	174,789	**593,757**	396,975	196,782
Delaware	**132,745**	94,328	38,417	**111,034**	69,811	41,223
District of Columbia	**145,704**	113,194	32,510	**113,858**	79,963	33,895
Florida	**1,427,896**	1,015,811	412,085	**1,513,819**	1,027,152	486,667
Georgia	**1,098,901**	799,522	299,379	**NA**	NA	NA
Hawaii	**180,641**	129,146	51,495	**170,761**	113,341	57,420
Idaho	**182,333**	123,933	58,400	**203,022**	139,481	63,541
Illinois	**2,356,636**	1,687,909	668,727	**2,100,157**	1,395,192	704,965
Indiana	**1,231,458**	876,558	354,900	**1,113,331**	720,671	392,660
Iowa	**660,104**	464,543	195,561	**568,540**	369,307	199,233
Kansas	**512,308**	356,992	155,316	**433,547**	293,124	140,423
Kentucky	**717,205**	513,148	204,057	**692,999**	477,570	215,429
Louisiana	**842,365**	615,562	226,803	**816,669**	565,844	250,825
Maine	**244,670**	176,804	67,866	**240,016**	161,797	78,219
Maryland	**916,244**	664,024	252,220	**809,933**	535,565	274,368
Massachusetts	**1,167,713**	833,171	334,542	**1,081,464**	721,266	360,198
Michigan	**2,180,699**	1,604,997	575,702	**1,911,345**	1,252,965	658,380
Minnesota	**920,839**	630,930	289,909	**807,716**	512,834	294,882
Mississippi	**534,395**	388,647	145,748	**493,710**	340,084	153,626
Missouri	**1,039,477**	748,299	291,178	**900,002**	593,923	306,079
Montana	**176,712**	120,825	55,887	**164,326**	109,463	54,863
Nebraska	**329,110**	229,920	99,190	**297,796**	194,376	103,420
Nevada	**127,550**	93,108	34,442	**146,281**	96,682	49,599
New Hampshire	**158,756**	113,700	45,056	**172,389**	117,241	55,148
New Jersey	**1,482,000**	1,063,276	418,724	**1,337,327**	884,390	452,937
New Mexico	**281,372**	198,595	82,777	**279,249**	187,102	92,147
New York	**3,477,016**	2,448,403	1,028,613	**3,093,885**	2,000,069	1,093,816
North Carolina	**1,192,187**	835,739	356,448	**1,162,810**	800,807	362,003
North Dakota	**147,013**	100,441	46,572	**122,021**	77,544	44,477
Ohio	**2,425,643**	1,698,298	727,345	**2,102,440**	1,396,760	705,680
Oklahoma	**626,956**	437,332	189,624	**588,870**	398,510	190,360
Oregon	**479,527**	325,065	154,462	**471,374**	317,533	153,841
Pennsylvania	**2,363,817**	1,634,940	727,877	**2,046,746**	1,326,561	720,185
Rhode Island	**188,090**	135,389	52,701	**160,656**	107,705	52,951
South Carolina	**637,800**	459,145	178,655	**624,931**	428,682	196,249
South Dakota	**166,305**	113,976	52,329	**138,228**	90,437	47,791
Tennessee	**899,893**	648,633	251,260	**873,036**	616,060	256,976
Texas	**2,839,900**	2,045,900	794,000	**2,867,254**	1,999,905	867,349
Utah	**304,002**	212,669	91,333	**325,026**	228,391	96,635
Vermont	**103,130**	73,891	29,239	**101,292**	69,618	31,674
Virginia	**1,078,754**	775,497	303,257	**1,055,238**	730,918	324,320
Washington	**817,712**	572,881	244,831	**769,246**	513,000	256,246
West Virginia	**399,531**	280,426	119,105	**395,722**	269,979	125,743
Wisconsin	**993,736**	678,430	315,306	**886,419**	559,786	326,633
Wyoming	**86,886**	60,391	26,495	**94,328**	64,854	29,474
Outlying areas						
American Samoa	NA	NA	NA	NA	NA	NA
Guam	NA	NA	NA	NA	NA	NA
Puerto Rico	NA	NA	NA	721,419	534,421	186,998
Virgin Islands	NA	NA	NA	25,138	19,163	5,975
Commonwealth of the Northern Marianas	NA	NA	NA	4,513	3,353	1,160

NA Not available.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Statistics of Public Schools, Fall 1970*, 1971; *Statistics of Public Elementary and Secondary Day Schools, Fall 1978*, 1979.

Chart 2.2
Change in Public Elementary/Secondary School Enrollment Between 1970 and 1978

Between 1970 and 1978, public school enrollments in most Northeastern and North Central States declined at a faster rate than in the Nation as a whole. Enrollments actually increased in 10 States, located primarily in the West.

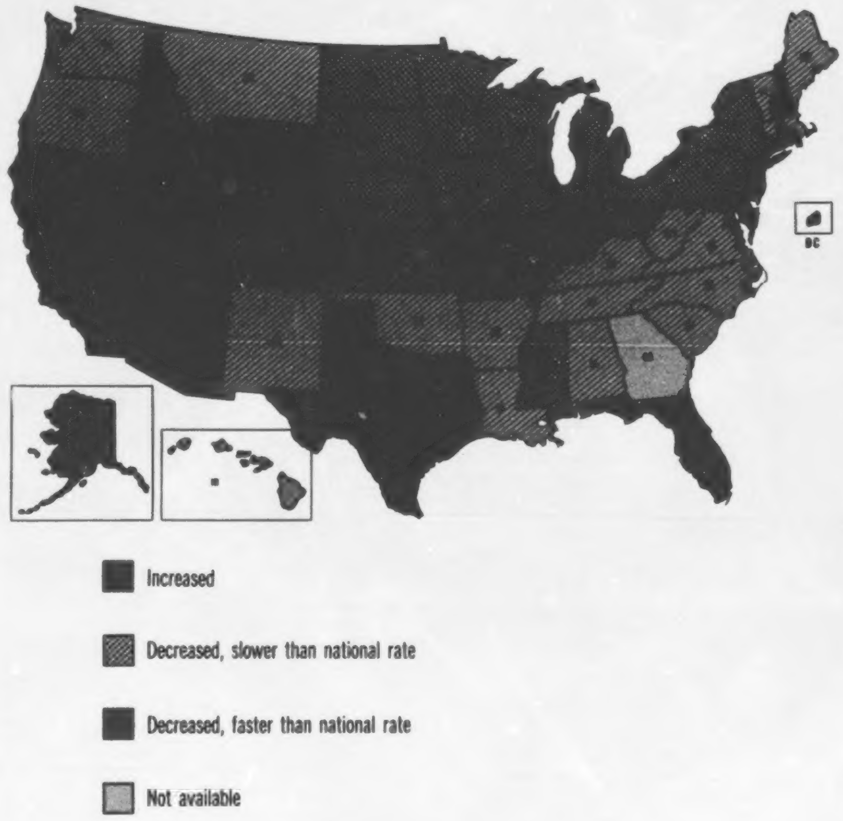

DC
Increased
Decreased, slower than national rate
Decreased, faster than national rate
Not available

Table 2.3
Public school district participation in Federal categorical programs: School year 1977–78

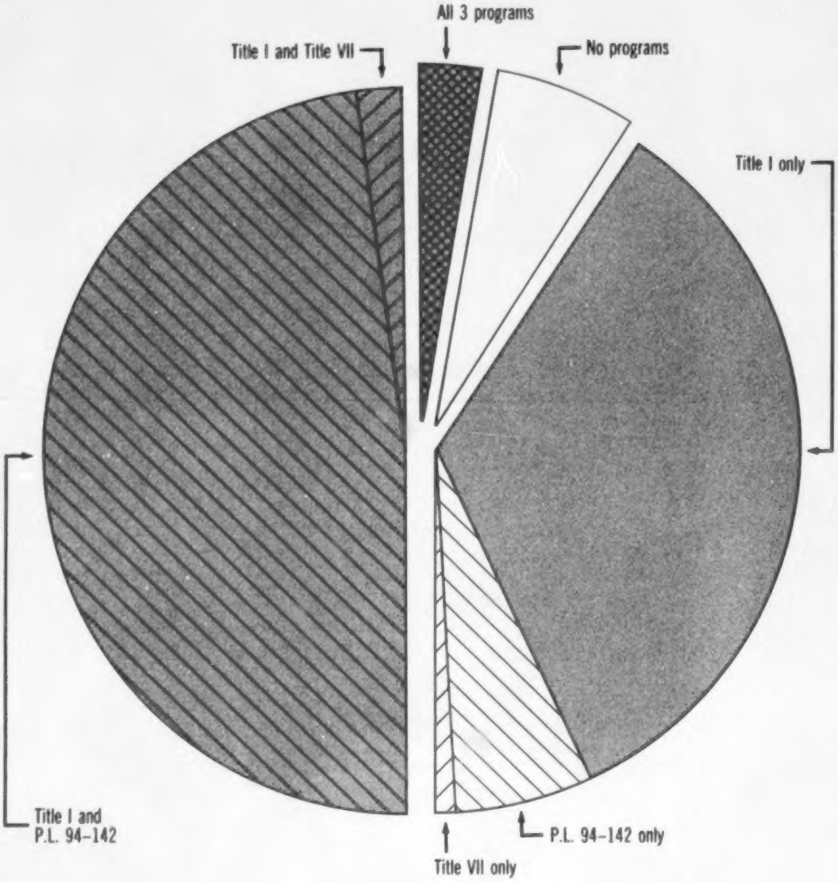
District participation	Percentage distribution
Total	100
In no programs	6
In one program only	40
ESEA, Title I	34
P.L. 94–142	6
ESEA, Title VII	0
In two or more programs	53
ESEA, Title I and P.L. 94–142	49
ESEA, Title I and ESEA, Title VII	2
P.L. 94–142 and ESEA, Title VII	0
All three programs	2

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, "Problems Stemming From Children's Eligibility For Multiple Federal Programs", 1979.

Chart 2.3
School District Participation in Federal Categorical Programs

Only 6 percent of all public school districts did not participate in any federal categorical programs. The majority of districts received funds from at least 2 such programs, most often Title I and P.L. 94–142 (Aid to the Handicapped).



NCES

Table 2.4
Elementary/secondary school students participating in Title I programs, by grade level and State: Fiscal year 1978

State or other area	Total[1]	Pre-kindergarten and kindergarten	1st to 6th grade	7th to 12th grade	Participants as a percent of public enrollment
Total 50 States and D.C.	4,955,283	378,078	3,697,851	879,354	11.6
Alabama	132,856	12,348	112,365	8,143	17.4
Alaska	4,361	336	2,527	1,498	4.8
Arizona	62,354	4,782	32,463	25,109	12.2
Arkansas	76,080	2,390	54,175	19,515	16.7
California	568,271	72,492	417,226	78,553	13.6
Colorado	30,467	1,570	18,440	10,457	5.5
Connecticut	56,068	8,360	37,437	10,271	8.4
Delaware	10,314	996	8,009	1,309	9.3
District of Columbia	17,428	3,116	11,303	3,009	15.3
Florida	156,540	9,294	125,554	21,692	10.3
Georgia	142,505	17,521	100,793	24,191	NA
Hawaii	11,887	905	7,191	3,791	7.0
Idaho	14,989	163	11,355	3,471	7.4
Illinois	161,590	13,400	108,448	39,742	7.7
Indiana	116,111	6,035	92,379	17,697	10.4
Iowa	48,127	1,245	38,617	8,265	8.5
Kansas	28,380	1,521	22,077	4,782	6.6
Kentucky	112,790	3,805	86,771	22,214	16.3
Louisiana	155,811	12,127	104,845	38,839	19.1
Maine	33,032	2,684	26,898	3,450	13.8
Maryland	78,500	15,273	55,738	7,489	9.7
Massachusetts	59,621	6,496	47,532	5,593	5.5
Michigan	146,273	19,965	98,012	28,296	7.6
Minnesota	66,231	5,154	53,364	7,713	8.2
Mississippi	100,945	1,239	79,595	20,111	20.4
Missouri	91,291	5,697	66,580	19,014	10.1
Montana	11,881	172	6,522	5,187	7.2
Nebraska	30,636	300	22,955	7,381	10.3
Nevada	5,360	63	2,809	2,488	3.7
New Hampshire	8,000	500	6,600	900	4.6
New Jersey	97,354	11,664	74,531	11,159	7.3
New Mexico	27,133	854	19,844	6,435	9.7
New York	352,944	10,200	254,459	88,285	11.4
North Carolina	139,106	397	118,204	20,505	12.0
North Dakota	13,669	104	10,248	3,317	11.2
Ohio	126,216	12,701	108,726	4,789	6.0
Oklahoma	89,890	2,179	62,072	25,639	15.3
Oregon	34,930	1,786	19,376	13,768	7.4
Pennsylvania	272,381	18,695	184,647	69,039	13.3
Rhode Island	17,351	1,082	12,195	4,074	10.8
South Carolina	113,002	2,836	75,351	34,815	18.1
South Dakota	15,884	665	12,220	2,999	11.5
Tennessee	100,158	5,456	82,547	12,155	11.5
Texas	437,455	46,710	326,675	64,070	15.3
Utah	19,184	2,240	14,045	2,899	5.9
Vermont	10,713	971	8,006	1,736	10.6
Virginia	104,073	2,897	90,239	10,937	9.9
Washington	56,984	2,736	39,609	14,639	7.4
West Virginia	43,557	---	38,629	4,928	11.0
Wisconsin	63,090	13,872	42,128	7,090	7.1
Wyoming	4,794	145	3,762	887	5.1
Outlying areas					
American Samoa[2]	2,302	---	---	2,302	NA
Guam	1,075	1,075	---	---	NA
Puerto Rico	233,921	5,553	218,071	10,297	32.4
Trust Territory[3]	7,987	20	4,968	2,999	NA
Virgin Islands	1,128	---	---	1,128	4.5

NA Not available.

[1] Includes nonpublic school participants served through the regular public schools, representing 3.6 percent of all participants.

[2] Data reported for fiscal year 1974.

[3] Data reported for fiscal year 1976.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, unpublished tabulations.

Chart 2.4
Students Participating in Title I as a Percent of Total Enrollment

Most Southern States had larger percentages of students participating in Title I compensatory programs than did the rest of the Nation.

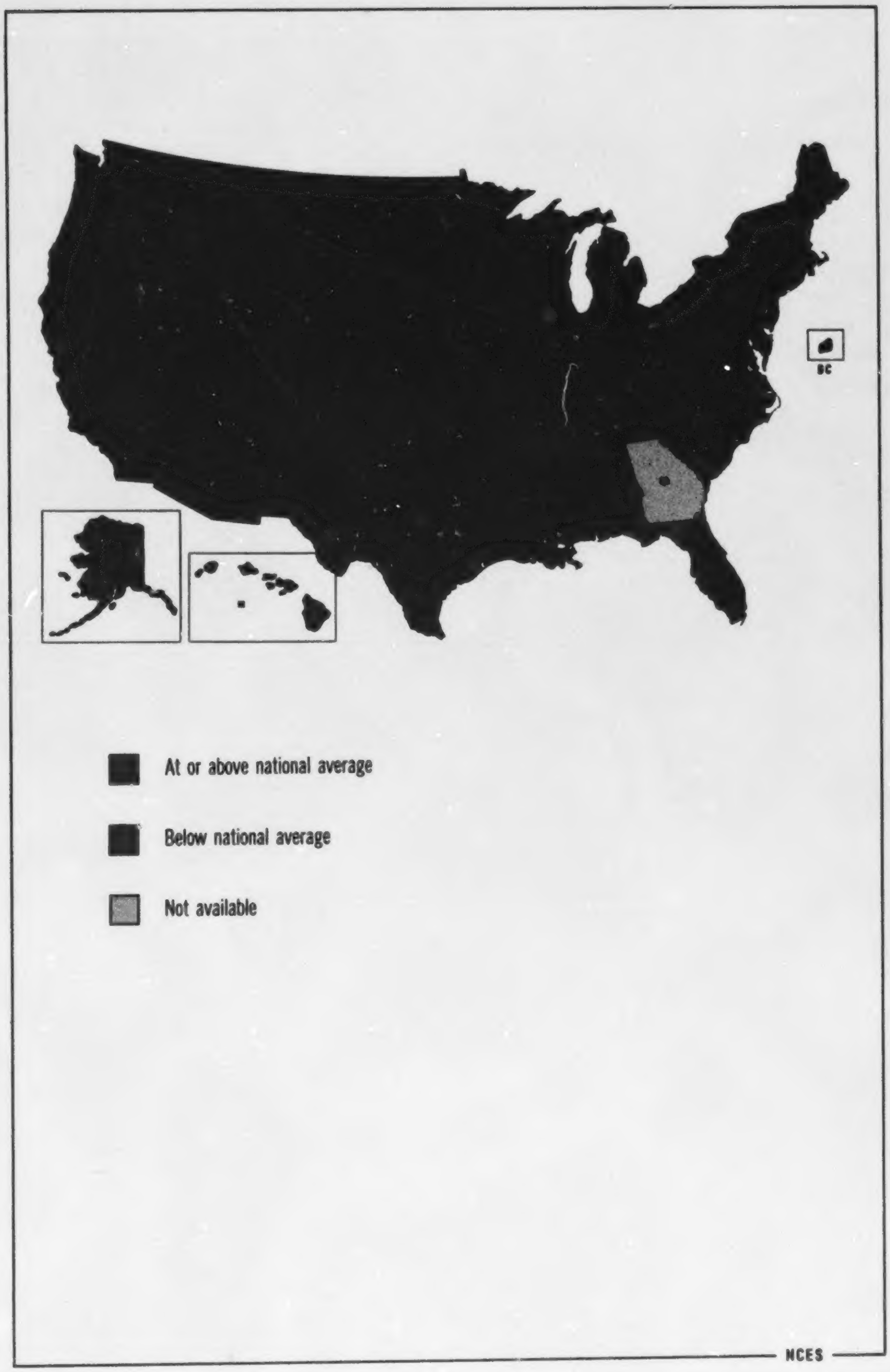

DC
At or above national average
Below national average
Not available
NCES

Table 2.5
Participation of elementary schools in compensatory programs, by poverty concentration, poor reading achievement concentration, and minority composition: School year 1975–76

Composition of schools	Total	Both Title I and other compensatory funds	Title I funds only	Other compensatory funds only	No compensatory funds
			Percentage distribution		
All	100	41	27	14	18
Poverty concentration					
Low poverty—0 to 20 percent of students from poverty backgrounds	100	31	22	19	28
Mid poverty—21 to 50 percent of students from poverty backgrounds	100	49	30	11	10
High poverty—51 to 100 percent of students from poverty backgrounds	100	59	31	5	5
Poor reading achievement concentration					
Low poor reading—0 to 20 percent of students reading 1 year or more below grade level	100	36	24	16	24
Mid poor reading—21 to 50 percent of students reading 1 year or more below grade level	100	45	29	12	14
High poor reading—51 to 100 percent of students reading 1 year or more below grade level	100	54	30	9	7
Minority composition					
Low minority—0 to 19 percent of students from minority backgrounds	100	38	27	15	20
Mid-low minority—20 to 49 percent of students from minority backgrounds	100	43	22	17	18
Mid-high minority—50 to 79 percent of students from minority backgrounds	100	55	26	11	8
High minority—80 to 100 percent of students from minority backgrounds	100	56	29	7	8

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, Office of Planning, Budgeting and Evaluation, *Elementary Schools and the Receipt of Compensatory Funds: Evaluation Study—Executive Summary*, August 1977.

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Chart 2.5
Elementary Schools Participating in Compensatory Programs by Student Characteristics

Title I and other compensatory funds were more likely distributed to schools with high concentrations of poor students, low reading achievers, or minority students.

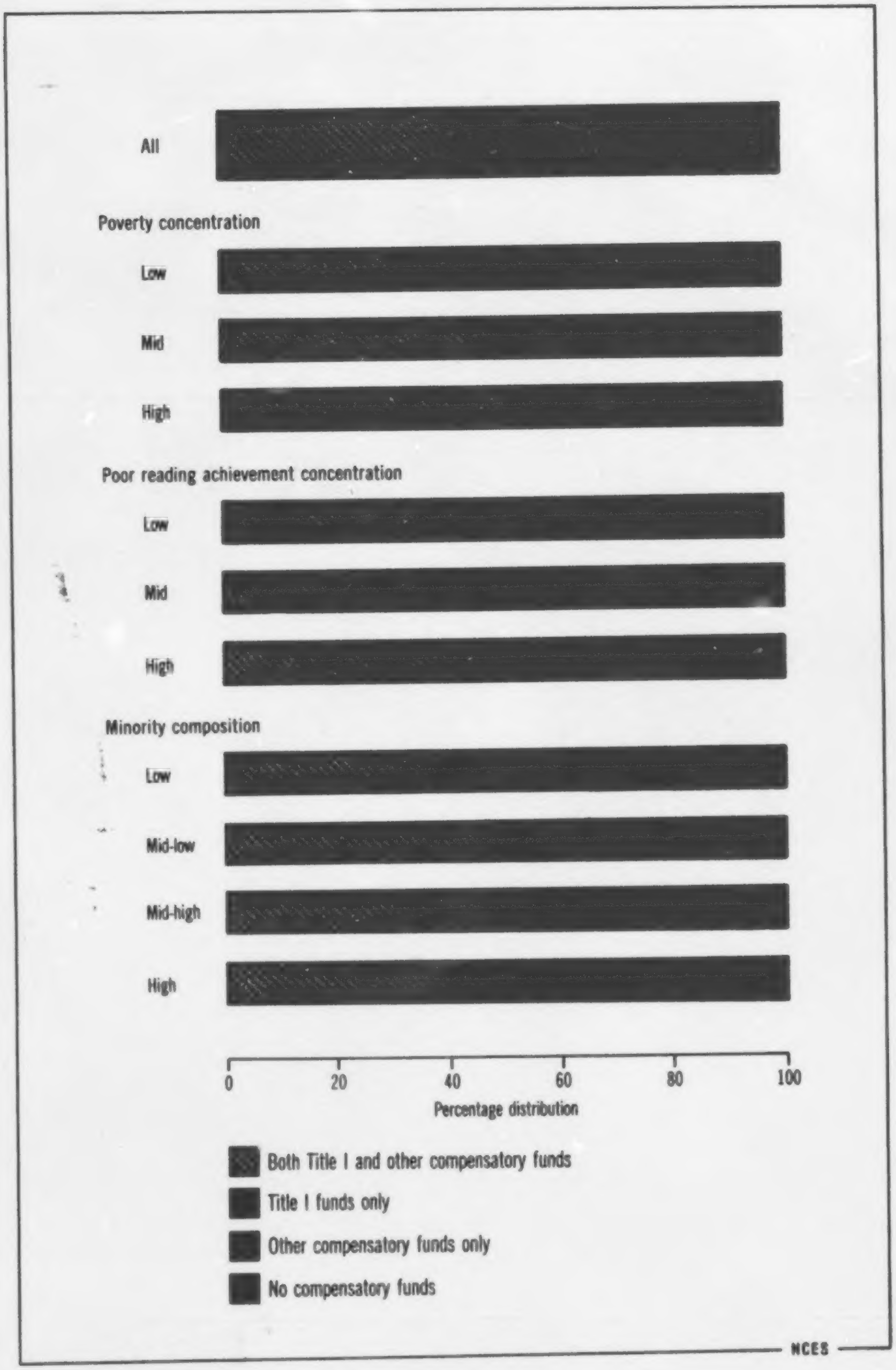

Table 2.6
Participation of public elementary[1] school students in compensatory programs, by source of funds, and family income[2] and achievement[3] status of student: School year 1975–76

Status	Total enrollment, in millions	Percent participating, by source of funds: Title I	Percent participating, by source of funds: Other
Total	20.0	15	10
Low income/low achievement	2.4	39	13
Non-low income/low achievement	4.2	24	15
Low income/non-low achievement	1.8	16	7
Non-low income/non-low achievement	11.6	6	8

[1] 1st to 6th grade only.

[2] Based on parental self-reports of economic status.

[3] Based on composite scores on the reading and mathematics sections of the Comprehensive Test of Basic Skills.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, Office of Planning, Budgeting, and Evaluation, *Student Economic Background, Achievement Status and Selection for Compensatory Service: Technical Summary*, 1978

Chart 2.6
Public Elementary School Students Participating in Compensatory Programs

Public elementary school students from low income families and with low achievement scores were much more likely than others to participate in compensatory programs: 39 percent through Title I; 13 percent through other funding sources.

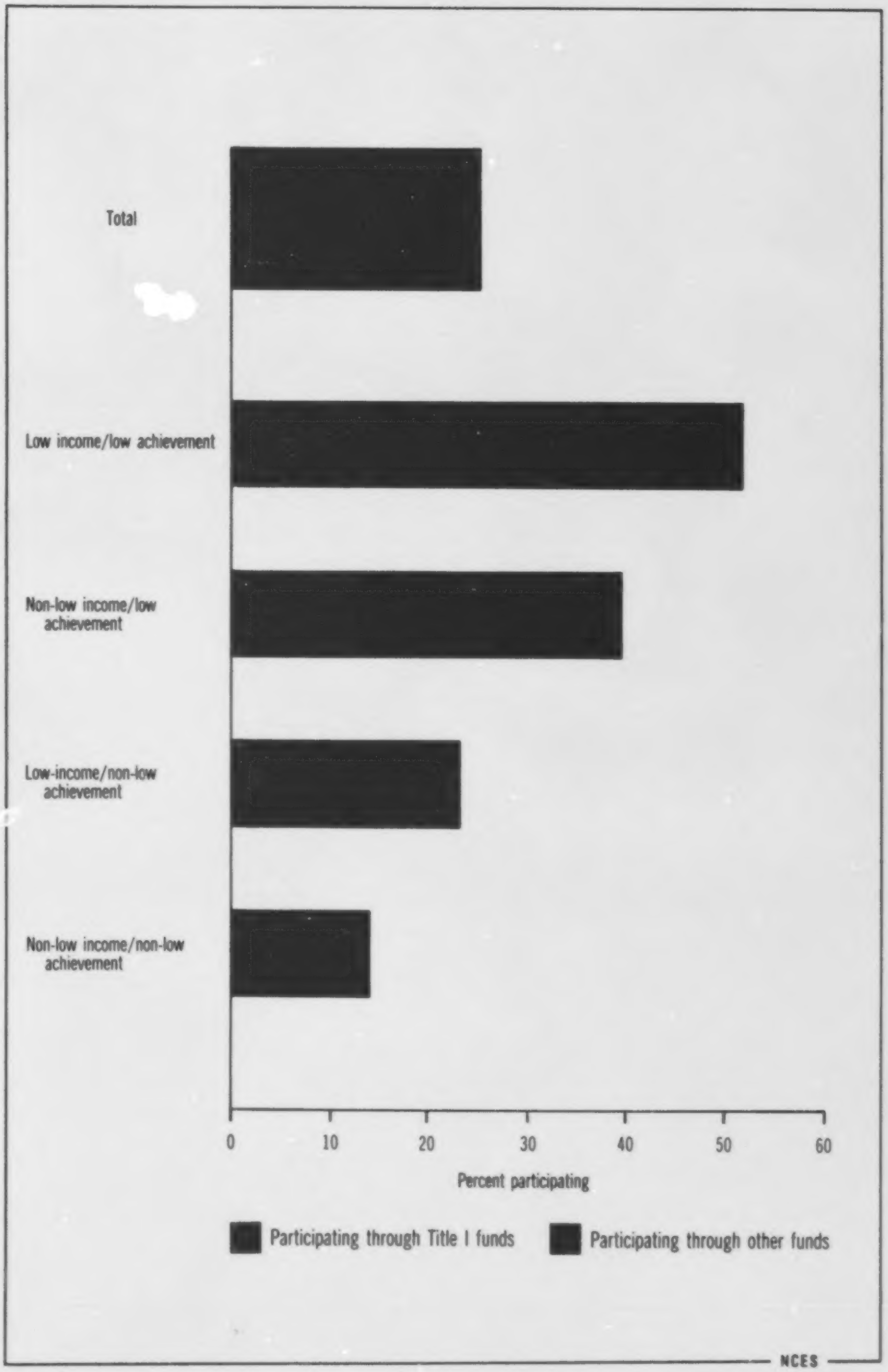

Table 2.7
Handicapped population receiving special education and related services, as reported by State agencies under P.L. 94–142 and P.L. 89–313, by type of handicap: School year 1978–79

Type of handicap	Number	Percent of 5- to 17-year-old population	Percentage distribution of handicapped	P.L. 94–142[1]		P.L. 89–313[2]	
				Number	Percent of 5- to 17-year-old population	Number	Percent of 5- to 17-year-old population
Total	**3,934,534**	**7.86**	100.0	3,709,054	7.41	225,480	0.45
Speech impaired	**1,214,997**	2.42	30.8	1,208,812	2.41	6,185	.01
Learning disabled	**1,154,491**	2.30	29.3	1,141,202	2.28	13,289	.02
Mentally retarded	**916,073**	1.83	23.2	801,813	1.60	114,260	.22
Emotionally disturbed	**301,358**	.60	7.6	269,629	.53	31,729	.06
Other health impaired	**105,620**	.21	2.6	101,465	.20	4,155	.00
Orthopedically impaired	**70,281**	.14	1.7	62,375	.12	7,906	.01
Multihandicapped	**50,416**	.10	1.2	40,372	.08	10,044	.02
Deaf	**44,481**	.08	1.1	20,597	.04	23,884	.04
Hard of hearing	**41,892**	.08	1.0	38,300	.07	3,592	.00
Visually handicapped	**32,576**	.06	.8	22,965	.04	9,611	.01
Deaf-blind	**2,349**	.00	.0	1,524	.00	825	.00

[1] Refers to the Education For All Handicapped Children Act and provides formula grants to the States for the provision of free and appropriate education for the handicapped population, 3- to 21-years-old.

[2] Amends Title I and provides aid for the handicapped in State owned or operated facilities.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Education for the Handicapped, unpublished tabulations.

Chart 2.7
School-Age Handicapped Receiving Special Education

The handicapped who receive special education through P.L. 94–142 and P.L. 89–313 represented almost 4 million persons or about 8 percent of the total school-age population.

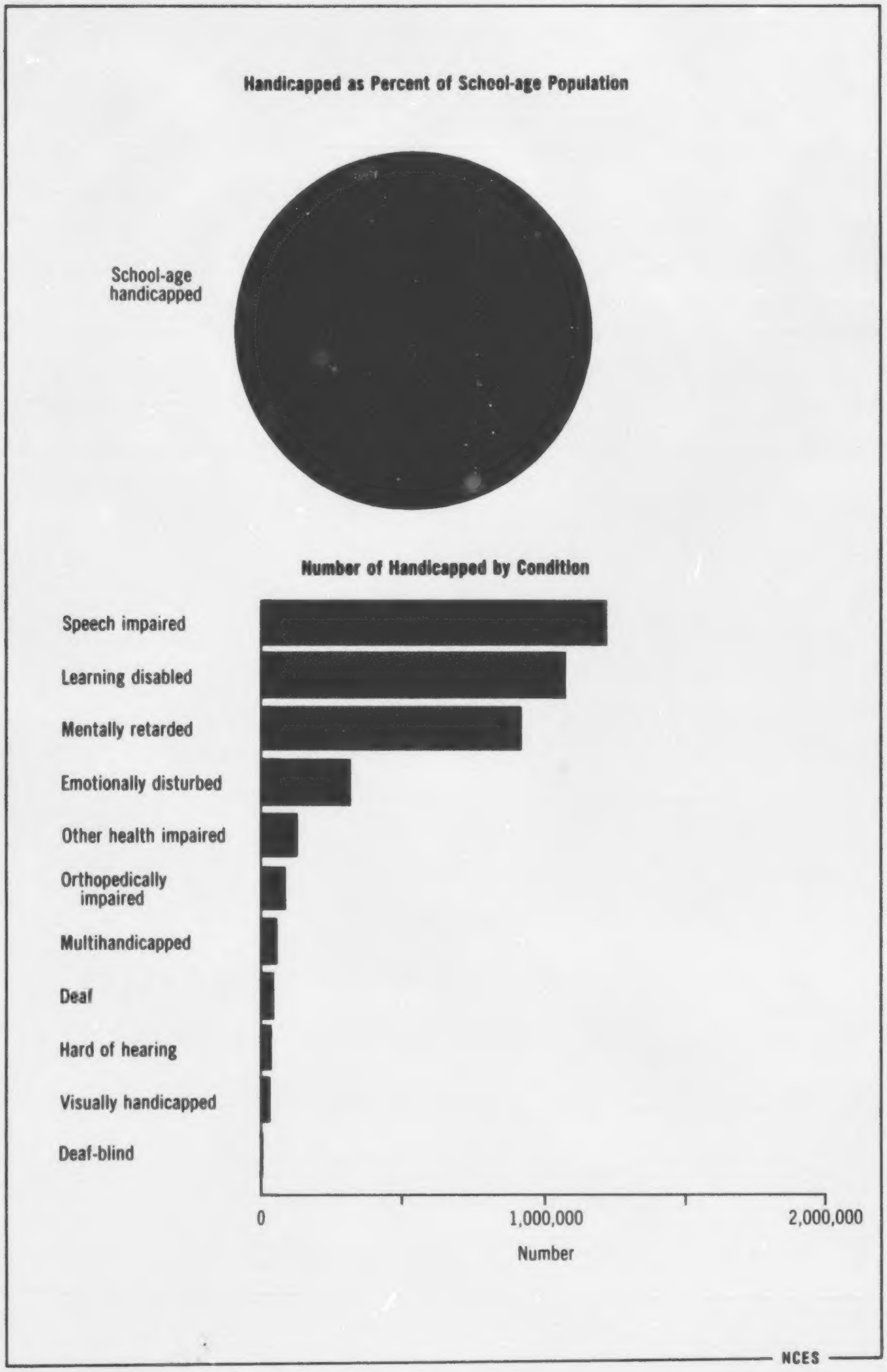

Table 2.8
Classroom teachers and student-teacher ratios in regular elementary/secondary day schools, by level and control of school: Fall 1967 to fall 1988

Fall of year	All school teachers			Public school teachers			Nonpublic school teachers		
	K–12	Elementary	Secondary	K–12	Elementary	Secondary	K–12	Elementary	Secondary
				Number in thousands					
1967	2,079	1,188	891	1,855	1,040	815	224	148	76
1968	2,161	1,223	938	1,936	1,076	860	225	147	78
1969	2,245	1,260	985	2,014	1,108	906	[1]231	152	79
1970	2,288	1,281	1,007	2,055	1,128	927	233	153	80
1971	2,293	1,262	1,031	2,063	1,111	[1]952	[1]230	151	79
1972	2,332	1,291	1,041	2,103	1,140	[1]963	[1]229	151	78
1973	2,371	1,305	1,066	2,138	1,152	[1]986	[1]233	153	80
1974	2,404	1,324	1,080	2,165	1,167	[1]998	[1]239	157	82
1975	2,444	1,344	1,100	2,196	1,180	[1]1,016	[1]248	164	84
1976	2,449	1,341	1,108	2,186	1,166	[1]1,020	[1]263	175	88
1977	2,470	1,359	1,111	2,209	1,185	[1]1,024	[1]261	174	87
1978	2,460	1,352	1,108	2,199	1,178	[1]1,021	[1]261	174	87
				Projected					
1979	2,437	1,326	1,112	2,169	1,147	1,022	268	178	90
1980	2,413	1,324	1,089	2,141	1,144	998	271	180	91
1981	2,386	1,321	1,065	2,114	1,139	975	272	182	90
1982	2,357	1,311	1,046	2,091	1,135	955	266	175	91
1983	2,360	1,327	1,033	2,084	1,137	946	277	190	87
1984	2,370	1,347	1,023	2,090	1,150	940	280	197	83
1985	2,393	1,375	1,018	2,108	1,175	933	285	200	85
1986	2,426	1,418	1,009	2,135	1,216	919	292	202	90
1987	2,463	1,469	994	2,164	1,264	901	298	205	93
1988	2,501	1,529	971	2,194	1,318	876	306	211	95

	Public school student-teacher ratios		Nonpublic school student-teacher ratios	
	Elementary	Secondary	Elementary	Secondary
1967	26.3	20.3	31.1	18.1
1968	25.4	20.4	29.8	17.3
1969	24.8	20.0	[1]27.8	[1]16.9
1970	24.4	19.8	26.5	16.4
1971	24.9	19.3	[1]25.5	[1]16.4
1972	24.0	19.1	[1]24.6	[1]16.4
1973	22.9	19.3	[1]23.6	[1]16.4
1974	22.6	18.7	[1]22.7	[1]16.4
1975	21.7	18.8	[1]21.7	[1]16.4
1976	21.8	18.5	20.8	16.4
1977	21.1	18.2	20.5	16.4
1978	21.3	17.2	20.4	16.5
		Projected		
1979	20.9	17.2	20.1	16.4
1980	20.7	17.1	19.9	16.4
1981	20.5	17.0	19.7	16.4
1982	20.2	16.9	19.5	16.4
1983	20.0	16.8	19.4	16.4
1984	19.8	16.7	19.2	16.4
1985	19.6	16.7	19.1	16.4
1986	19.3	16.6	19.0	16.4
1987	19.1	16.6	18.9	16.4
1988	18.9	16.5	18.8	16.4

[1] Estimated.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1988–89*, 1980.

Chart 2.8
Classroom Teachers and Student-Teacher Ratios in Elementary/Secondary Schools

The number of public elementary school teachers is expected to rise in the mid-1980's while the number projected for public secondary school teachers declines and for nonpublic school teachers remains constant.

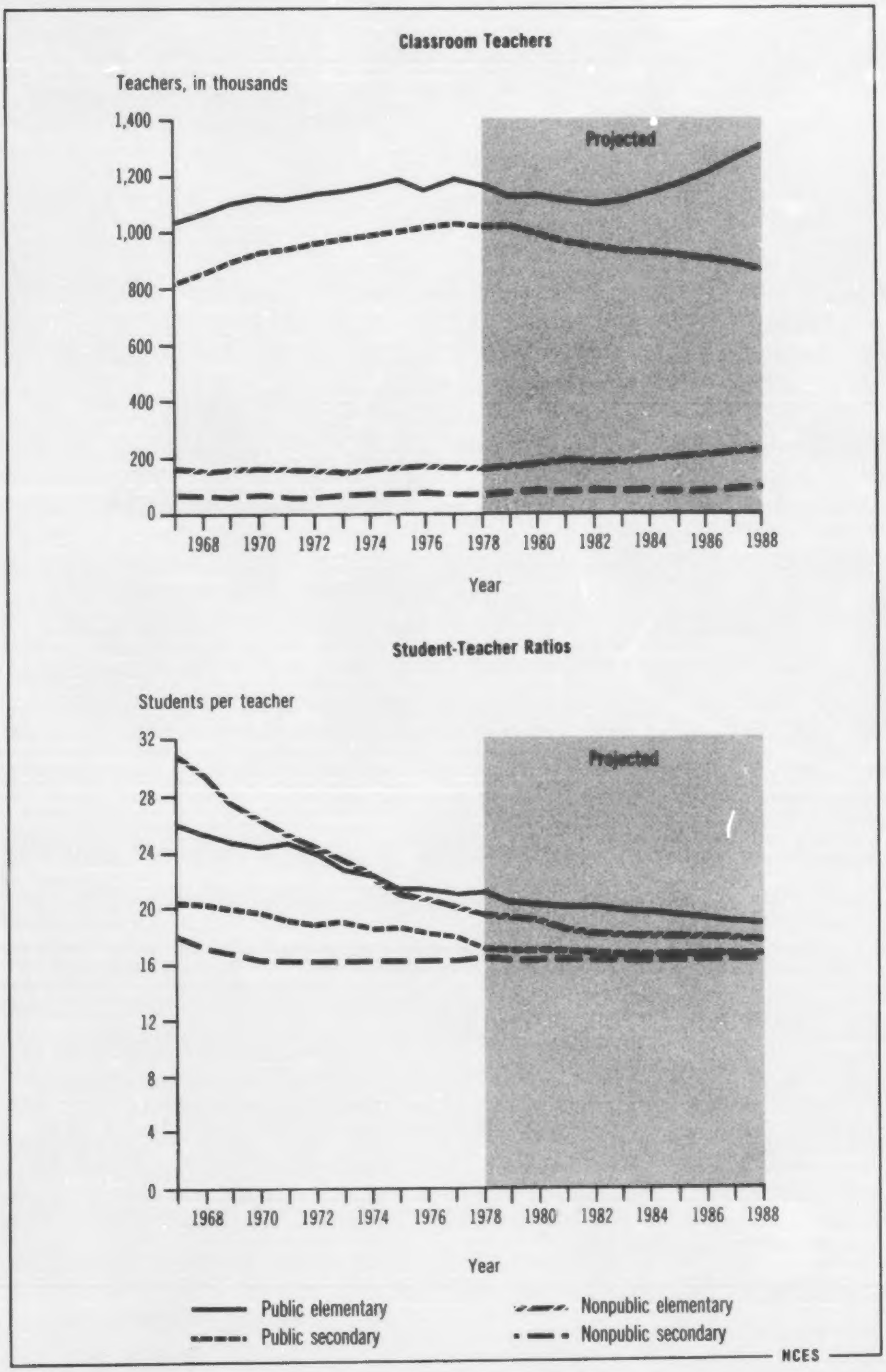

Table 2.9
Estimated supply of new teacher graduates compared to estimated total demand for additional teachers in regular elementary/secondary schools: Fall 1967 to fall 1988

Fall of year	Estimated supply of new teacher graduates	Estimated total demand for additional teachers	Supply of new teacher graduates as a percent of total demand for additional teachers
	Numbers in thousands		
1967	220	223	98.7
1968	233	243	95.9
1969	264	253	104.3
1970	284	208	136.5
1971	314	163	192.6
1972	317	187	169.5
1973	313	179	174.9
1969–1973	**1,492**	**990**	150.7
1974	279	175	159.4
1975	238	185	128.6
1976	227	152	149.3
1977	198	168	117.9
1978	190	139	136.7
1974–1978	**1,132**	**819**	138.2
1979	184	125	147.2
1980	183	122	150.0
1981	178	117	152.1
1982	177	113	156.6
1983	171	145	117.9
1979–1983	**893**	**622**	143.6
1984	166	152	109.2
1985	159	165	96.4
1986	156	177	88.1
1987	150	182	82.4
1988	149	185	80.5
1984–1988	**780**	**861**	90.6

NOTE: Details may not add to totals because of rounding and figures for past years may differ slightly from previously published figures.

SOURCE: National Education Association, *Teacher Supply and Demand in Public Schools*, 1973, 1976, 1977, and 1978, and U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1988–89*, 1980.

Chart 2.9
Estimated Supply of New Teacher Graduates and Estimated Total Demand for Additional Teachers

The supply of new teacher graduates is expected to more than fill the total demand for additional classroom teachers, at least until the mid-1980's.

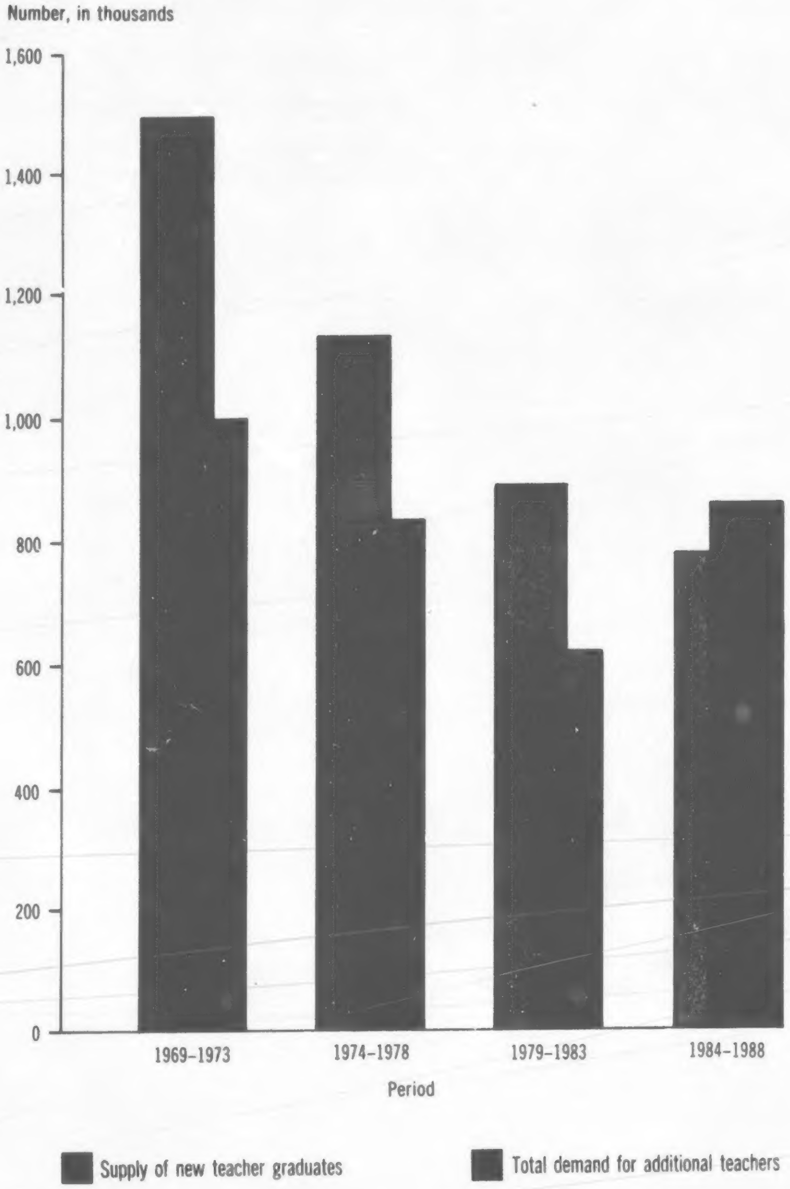

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Table 2.10
Median years on current job of professional, technical, and kindred workers, by sex and occupation: January 1973 and January 1978

Sex and occupation	1973	1978
Male		
Professional, technical, and kindred workers	**4.8**	**4.8**
Teachers (except college)	**4.4**	**6.5**
Physicians, dentists, and related practitioners	7.0	5.5
Engineers	6.0	6.0
Engineering and science technicians	5.0	3.7
Other professionals	4.5	3.7
Female		
Professional, technical, and kindred workers	**3.4**	**3.6**
Teachers (except college)	**3.7**	**4.7**
Physicians, dentists, and related practitioners	3.1	3.5
Engineers	(1)	(1)
Engineering and science technicians	2.6	2.7
Other professionals	3.2	2.7

[1] Base less than 75,000.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, unpublished tabulations.

Chart 2.10
Median Years on Current Job of Teachers

While from 1973 to 1978, job tenure among all professional, technical, and kindred workers did not change significantly, the number of years on the current job among teachers increased by 2.1 years for males and 1 year for females.

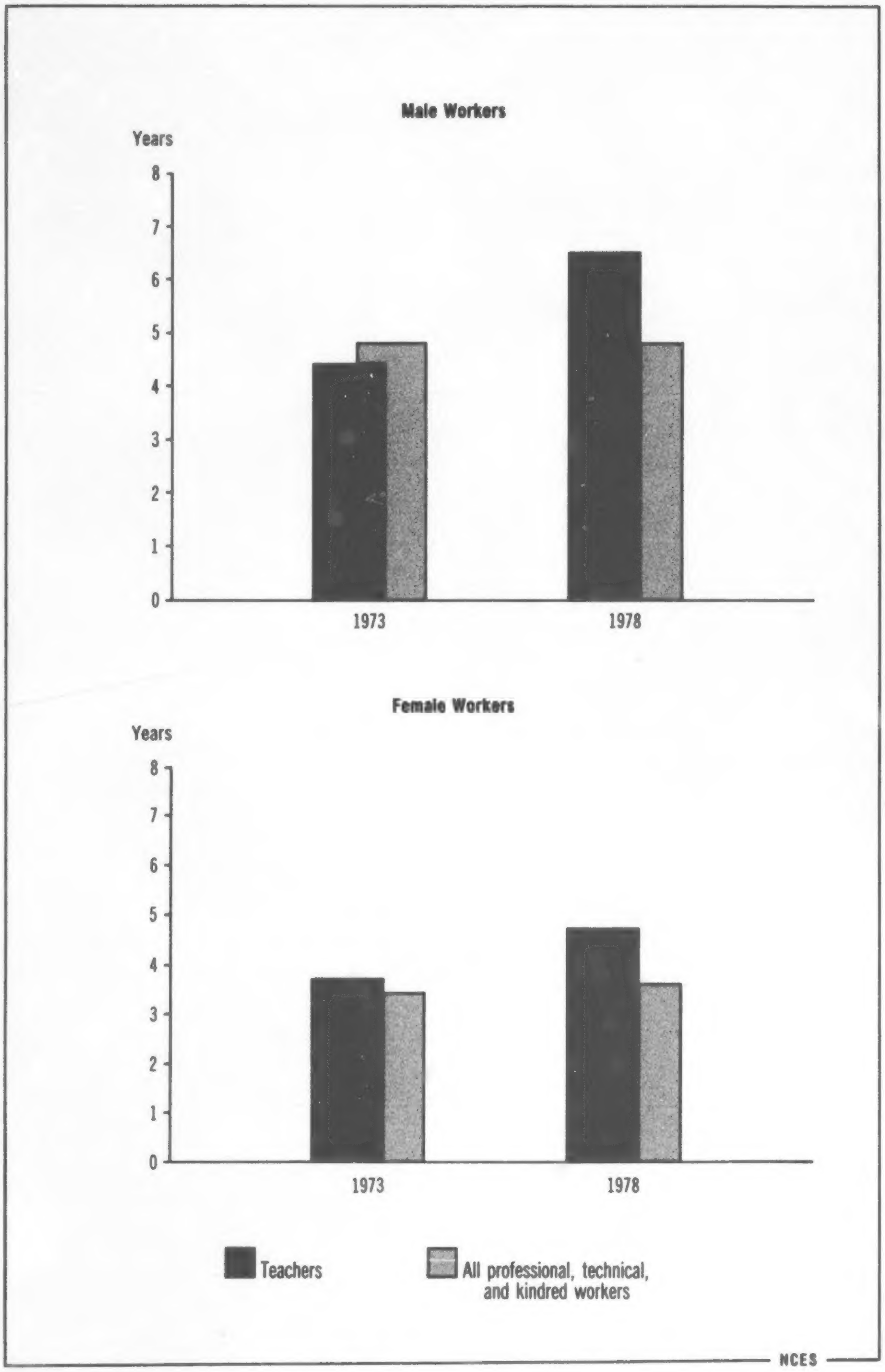

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Table 2.11

Current expenditures for salaries and average annual salary of classroom teachers in public regular elementary/secondary schools: School year 1968–69 to 1988–89

School year ending	Number of classroom teachers, in thousands	Salaries of classroom teachers			
		Total expenditures for salaries, in billions		Average annual salary	
		Current dollars	Constant (1978–79) dollars	Current dollars	Constant (1978–79) dollars
1969	1,936	$16.0	$30.8	$ 8,260	$15,885
1970	2,014	18.0	32.7	8,944	16,232
1971	2,055	19.9	34.4	9,695	16,744
1972	2,063	21.3	35.6	10,342	17,237
1973	2,103	22.1	35.4	10,530	16,848
1974	2,138	24.0	35.3	11,223	16,504
1975	2,165	26.6	35.2	12,291	16,258
1976	2,196	28.9	35.7	13,177	16,268
1977	2,186	30.9	36.1	14,134	16,512
1978	2,209	33.2	26.3	15,027	16,441
1979	2,199	34.9	34.9	15,867	15,867
			Projected		
1980	2,169		33.5		15,435
1981	2,141		32.5		15,160
1982	2,114		32.4		15,346
1983	2,091		32.4		15,488
1984	2,084		32.6		15,621
1985	2,090		33.0		15,791
1986	2,108		34.0		16,107
1987	2,135		35.2		16,497
1988	2,164		36.5		16,850
1989	2,194		37.6		17,115

SOURCE; U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1988–89*, 1980.

Chart 2.11
Average Annual Salaries of Public School Classroom Teachers

The average salary of classroom teachers did not keep pace with inflation from the early 1970's.

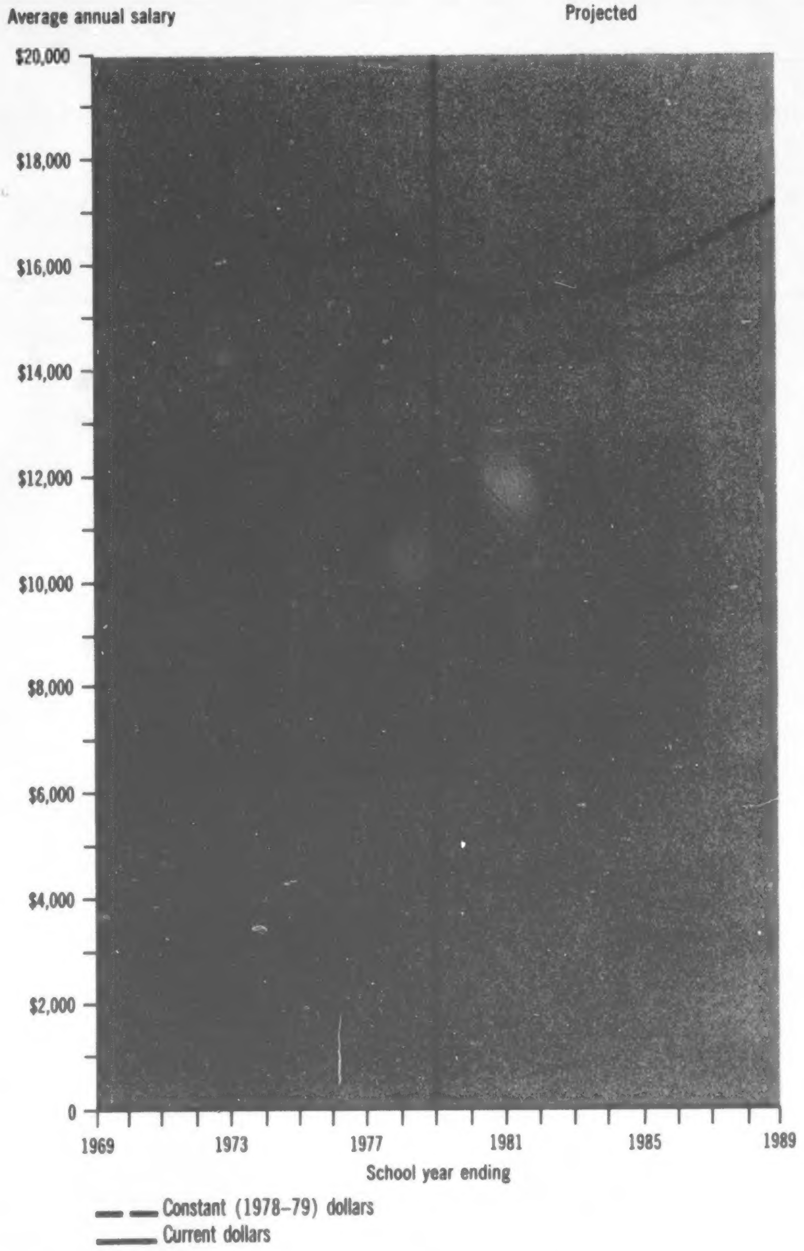

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Table 2.12
School districts attaining key noncompensation provisions in teacher contracts: By 1970 and from 1970 to 1975

Provision	Total	By 1970	From 1970 to 1975
		Percent	
All grievances subject to arbitration	83	70	13
Teacher can respond formally to administrator's evaluation	64	42	22
Duration of school day specified	58	39	19
Teacher can exclude disruptive student	46	28	18
Reduction-in-force procedures spelled out	37	11	26
Maximum class size specified	34	20	14
Only seniority and credentials determine promotion	33	20	13
Instructional policy committee established in each school	31	16	15
Involuntary transferees selected on specific criteria	29	19	10
Minimum number of aides per classroom specified	29	11	18
Teacher can refuse assignment outside of grade or subject	27	21	6

SOURCE: Lorraine McDonnell and Anthony Pascal, Rand Corporation, *Organized Teachers in American Schools*, 1979.

Chart 2.12
Key Noncompensation Provisions in Teacher Contracts Attained by School Districts

From 1970 to 1975, a sizeable proportion of school districts were added to those that had earlier obtained key noncompensation provisions in teachers' contracts. Thirteen percent of school districts won the right to submit all grievances to arbitration, raising the total proportion of school districts with this provision to 83 percent.

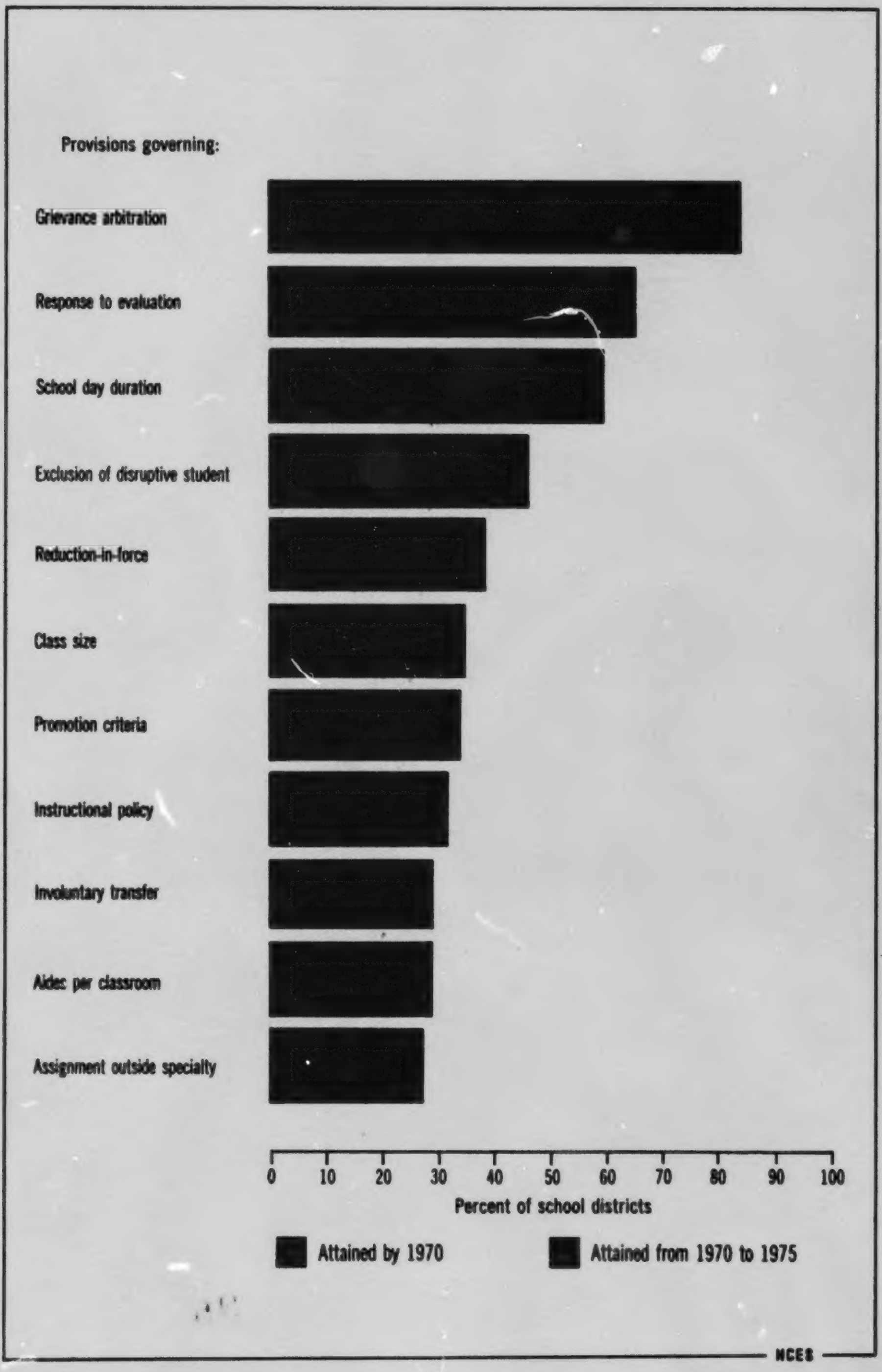


Table 2.13
High school graduates as a percent of 18-year-olds, and by control of school and sex of student: School year 1966–67 to 1988–89

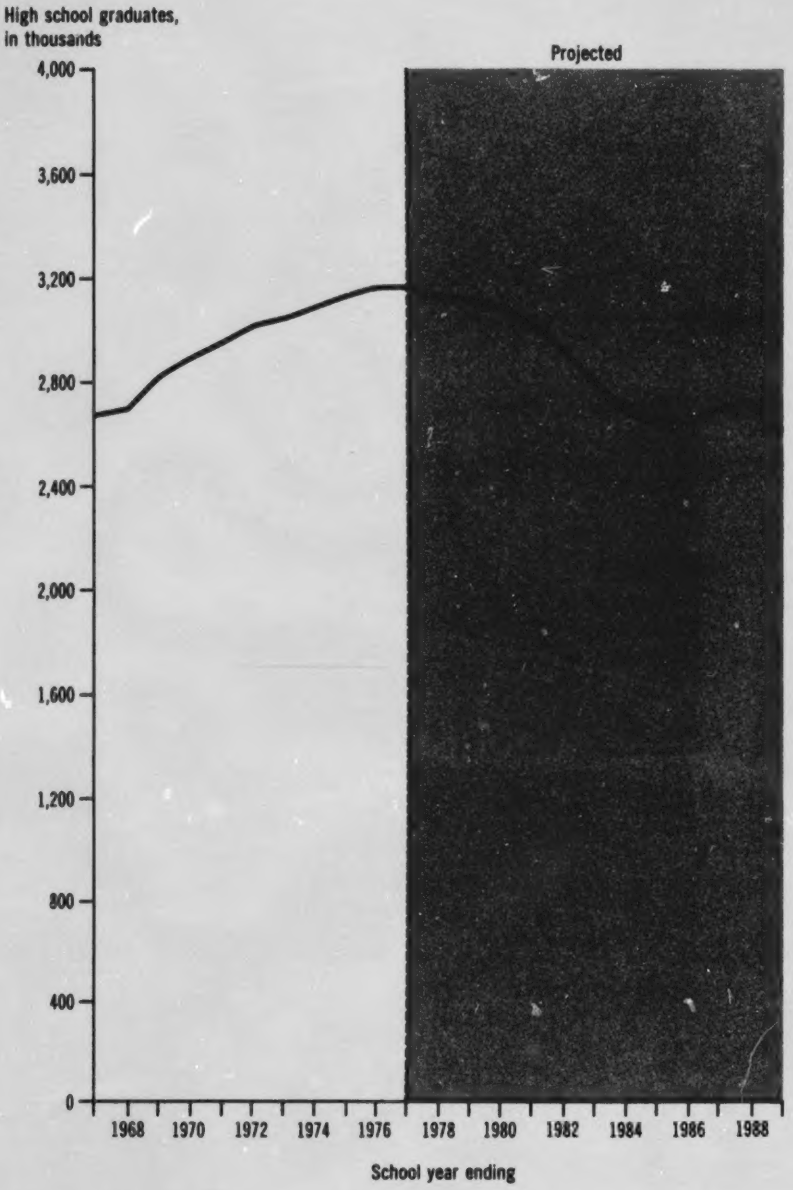
School year ending	Total high school graduates	Percent of 18-year-old population	Control		Sex	
			Public	Nonpublic	Male	Female
			Numbers in thousands			
1967	**2,679**	75.8	2,381	298	1,332	1,348
1968	**2,702**	74.8	2,402	300	1,341	1,360
1969	**2,829**	75.9	2,529	300	1,402	1,427
1970	**2,896**	75.6	2,596	300	1,433	1,463
1971	**2,944**	75.0	2,644	300	1,457	1,487
1972	**3,008**	75.1	2,706	302	1,490	1,518
1973	**3,043**	74.7	2,737	306	1,503	1,540
1974	**3,081**	74.0	2,771	310	1,515	2,566
1975	**3,140**	74.3	2,830	310	1,545	1,595
1976	**3,155**	74.7	2,844	311	1,554	1,601
1977	**3,161**	74.9	2,846	315	1,550	1,611
1978	**3,134**	74.0	2,832	302	1,534	1,600
			Projected			
1979	**3,121**	74.1	2,811	310	1,534	1,587
1980	**3,078**	74.3	2,758	320	1,513	1,565
1981	**3,020**	74.3	2,700	320	1,487	1,533
1982	**2,911**	74.0	2,601	310	1,423	1,488
1983	**2,788**	74.3	2,468	320	1,370	1,418
1984	**2,684**	74.3	2,364	320	1,319	1,365
1985	**2,630**	74.3	2,310	320	1,293	1,337
1986	**2,633**	74.3	2,323	310	1,295	1,338
1987	**2,684**	74.3	2,384	300	1,321	1,363
1988	**2,701**	74.5	2,401	300	1,335	1,366
1989	**2,601**	74.1	2,291	310	1,282	1,319

NOTE: Population 18 years old estimated to the nearest birthday.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1988–89*, 1980.

Chart 2.13
High School Graduates

The number of high school students graduated each year is expected to decline through the 1980's as projections show the number in the age group decreasing and the graduation rate remaining constant.



NCES

Table 2.14

Estimated average daily attendance (ADA) related to enrollment in public regular elementary/secondary day schools in large cities: School year 1978–79

Large cities	Enrollment	Estimated ADA	ADA as a percent of enrollment
Total 50 States and D.C.	42,611,000	39,234,000	92.1
Total 20 cities	4,242,091	3,676,000	86.7
Baltimore, MD	145,503	124,307	85.4
Boston, MA	71,284	55,941	78.5
Chicago, IL	470,100	NA	---
Cleveland, OH	104,676	87,043	83.2
Dallas, TX	132,061	119,681	90.6
Detroit, MI	230,407	211,974	92.0
Houston, TX	201,960	180,868	89.6
Indianapolis, IN	73,655	64,724	87.9
Los Angeles, CA[1]	665,754	607,928	91.3
Memphis, TN	114,686	105,698	92.2
Milwaukee, WI	95,727	NA	---
New Orleans, LA	89,010	76,300	85.7
New York, NY	998,871	786,525	78.7
Philadelphia, PA	244,417	216,000	88.4
Phoenix, AZ	175,467	NA	---
St. Louis, MO	73,060	66,267	90.7
San Antonio, TX	63,209	57,161	90.4
San Diego, CA[1]	116,396	113,860	97.8
San Francisco, CA[1]	61,990	61,952	99.9
Washington, D.C.	113,858	94,502	83.0

NA Not available.

[1] California includes excused absences in attendance.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Day Schools, Fall 1978*, 1979.

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Chart 2.14
Attendance in Large City Schools

Average daily attendance rates were below the National rate in 14 of the 17 largest school districts reporting for the 1978–79 school year.

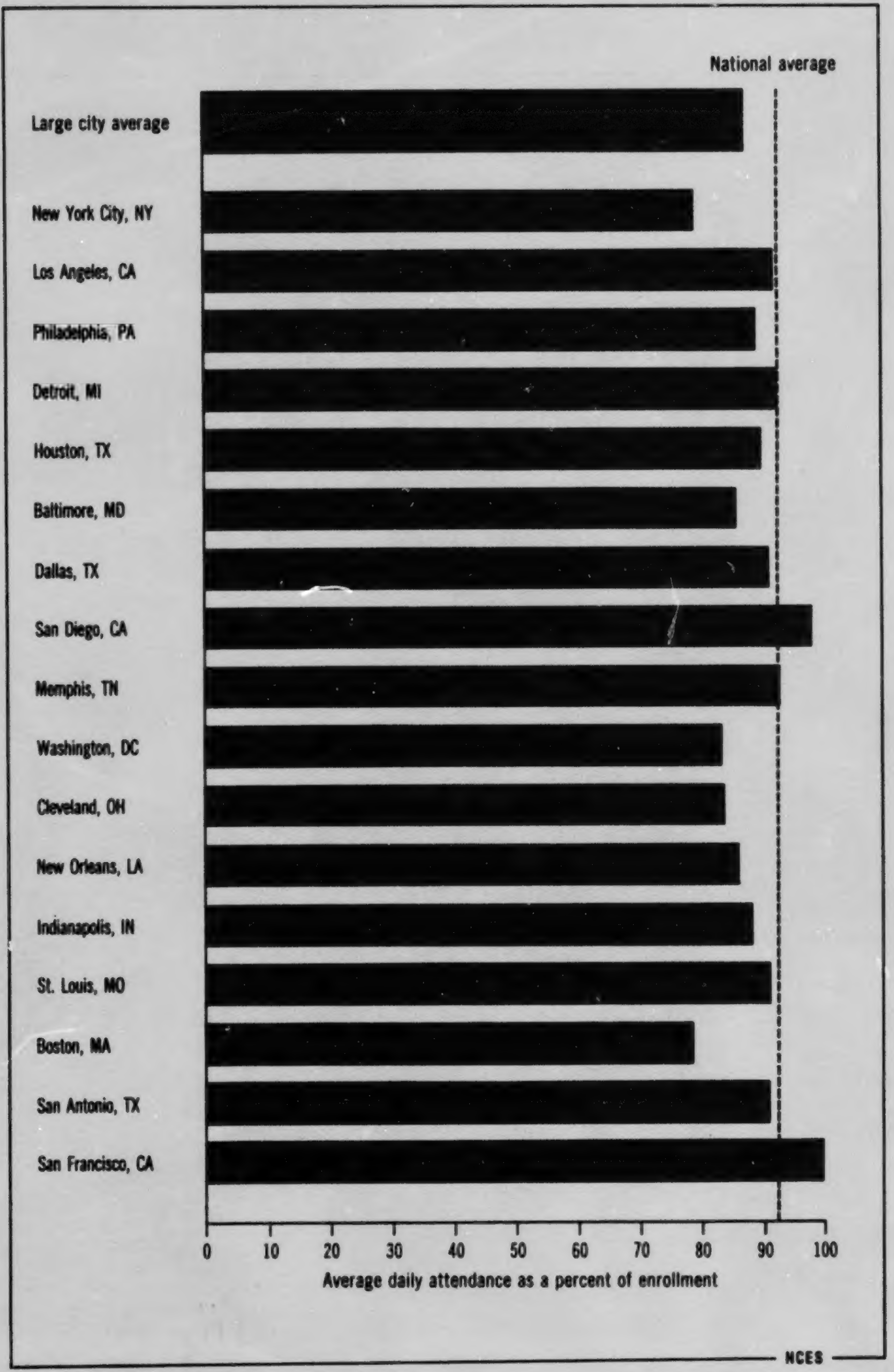

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Table 2.15
Average percentages of correct responses on mathematical assessment, by type of exercise and age group and differences from average percentages, by selected background characteristics: 1977–78

Item	Mathematical knowledge	Mathematical skills	Mathematical application
9-year-olds			
Average percentages correct	65.9	43.3	37.7
Difference from average percentage:			
Parental education			
Not high school graduate	*−8.7	*−7.7	*−7.8
High school graduate	.5	.5	−.2
Post high school	*5.3	*5.0	*6.0
Type of community			
Advantaged urban	*8.7	*8.9	*9.4
Disadvantaged urban	*−10.8	*−8.9	*−7.7
Extreme rural	*−4.5	*−3.3	*−4.2
Modal grade			
1 year below modal grade	*−12.2	*−10.4	*−10.2
At modal grade	*4.3	*3.6	*3.5
13-year-olds			
Average percentages correct	66.9	51.9	43.3
Difference from average percentage:			
Parental education			
Not high school graduate	*−7.5	*−8.9	*−7.5
High school graduate	−.6	*−.9	*−1.2
Post high school	*5.8	*6.9	*6.1
Type of community			
Advantaged urban	*7.3	*9.0	*6.9
Disadvantaged urban	*−10.3	*−12.8	*−10.2
Extreme rural	*−4.4	*−4.7	*−3.4
Modal grade			
1 year below modal grade	*−8.8	*−11.6	*−8.0
At modal grade	*3.8	*5.0	*3.5
17-year-olds			
Average percentages correct	71.7	59.0	43.5
Difference from average percentage:			
Parental education			
Not high school graduate	*−9.4	*−10.8	*−10.8
High school graduate	*−2.5	*−3.0	*−3.0
Post high school	*5.5	*6.3	*6.2
Type of community			
Advantaged urban	*7.6	*9.8	*9.9
Disadvantaged urban	*−12.5	*−13.4	*−12.8
Extreme rural	−1.1	*−2.5	−2.2
Modal grade			
1 year below modal grade	*−11.5	*−13.3	*−12.7
At modal grade	*2.2	*2.3	*2.0
1 year above modal grade	*3.0	*4.4	*5.5
Highest level of mathematical coursework			
Less than Algebra I	*−13.8	*−17.2	*−14.3
Algebra 1	*−5.5	*−6.2	*−7.1
Geometry	*4.3	*1.8	*2.2
Algebra II	*8.2	*10.8	*8.2
More than Algebra II	*15.9	*20.7	*21.0

*Statistically significant at the 0.05 level.

SOURCE: U.S. Department of Health, Education, and Welfare, National Institute of Education, National Assessment of Educational Progress, *Mathematical Knowledge and Skills*, 1979, *Mathematical Applications*, 1978.

Chart 2.15
Mathematical Knowledge Assessment by Age Group and Background Characteristics

Almost 30 percentage points separated the scores of 17-year-olds who had taken less than Algebra I from the scores of those who had taken more than Algebra II on the mathematical knowledge assessment.

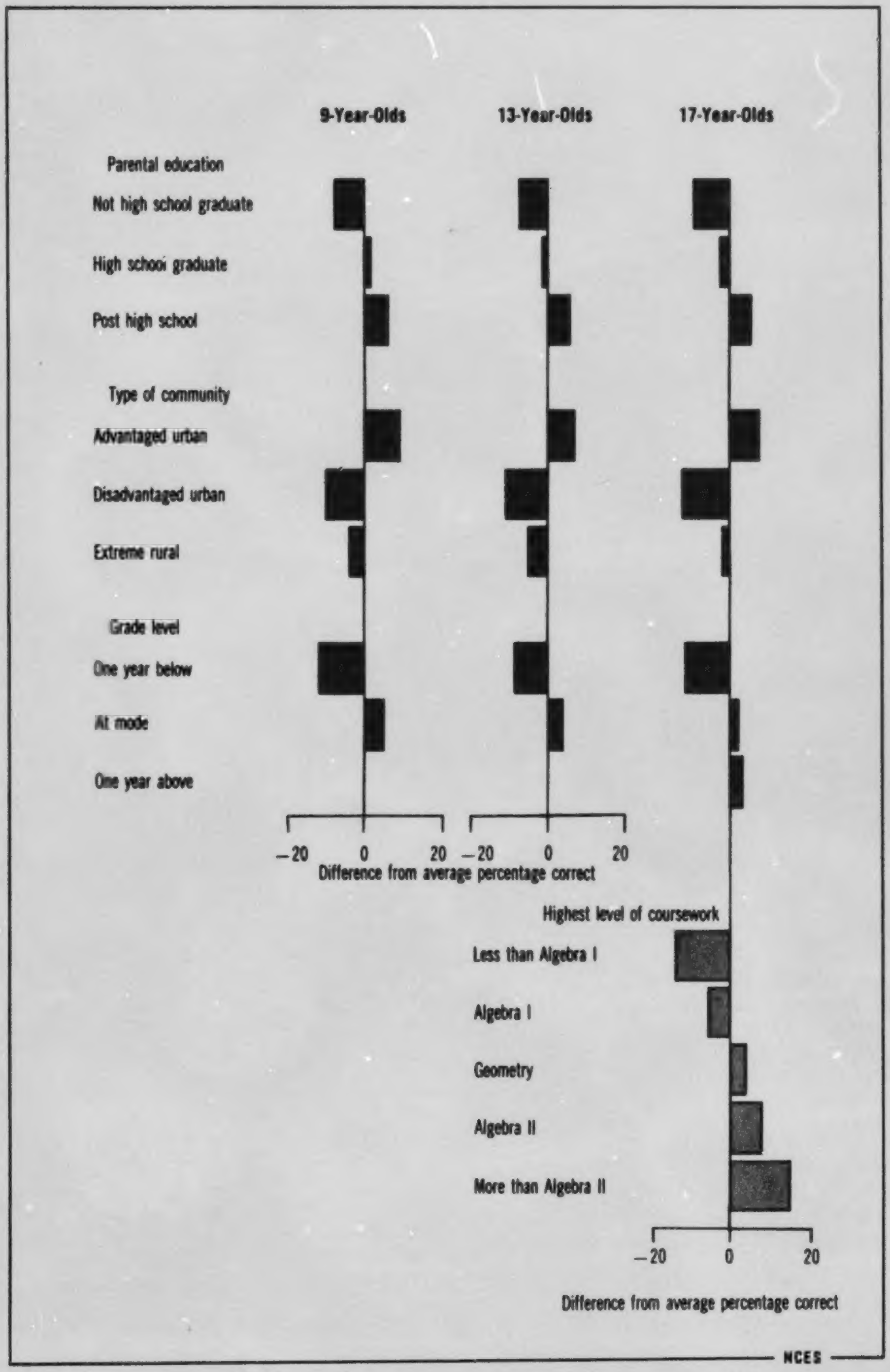

Table 2.16
Average percentages of correct responses on mathematical assessment, by type of exercise, age group, and selected characteristics: 1977–78 and change from 1972–73

	All exercises		Mathematical knowledge		Mathematical skills		Mathematical understanding		Mathematical application	
Characteristics	1978	Change	1978	Change	1978	Change	1978	Change	1978	Change
9-year-olds	36.8	−1.3	54.7	−0.8	25.7	−0.4	NA	...	31.8	*−5.9
Sex										
Male	37.0	−1.2	54.9	−.3	25.5	−.6	NA	...	32.7	*−5.9
Female	36.7	−1.4	54.5	−1.3	25.9	−.1	NA	...	30.8	*−5.9
Racial/ethnic group										
White	38.1	*−2.0	57.1	−1.4	27.8	−1.0	NA	...	34.6	*−6.9
Black	26.3	*2.9	44	*3.4	16.1	*3.0	NA	...	18.6	.2
Hispanic origin	28.6	.6	45.0	1.2	18.9	1.5	NA	...	21.9	−3.7
Region										
Northeast	42.0	.1	61.1	1.9	29.5	−.3	NA	...	37.4	*−5.3
Southeast	32.4	.4	48.6	−1.5	22.5	*2.6	NA	...	26.5	−3.6
Central	38.7	−1.2	56.9	.4	27.4	−1.1	NA	...	33.6	*−5.5
West	34.0	*−3.7	51.9	−3.4	23.0	−2.2	NA	...	29.1	*−8.4
13-year-olds	50.6	*−2.0	64.0	−.3	48.9	*−2.4	49.8	−1.9	38.3	*−3.4
Sex										
Male	50.9	−1.8	65.1	.6	48.6	−2.0	50.7	*−2.2	39.2	*−3.9
Female	50.2	*−2.3	62.9	−1.2	49.3	*−2.8	48.9	−1.6	37.4	*−3.0
Racial/ethnic group										
White	54.2	*−2.4	67.3	−.5	52.8	*−2.9	53.5	*−2.3	42.1	*−3.4
Black	32.4	.6	48.5	2.4	29.8	.7	31.9	.5	19.3	−2.2
Hispanic origin	36.7	−3.0	51.2	−2.7	35.0	−2.4	35.4	−1.4	23.8	*−6.6
Region										
Northeast	55.8	−1.6	68.4	−.3	55.6	−1.7	54.0	−1.2	41.2	−3.6
Southeast	44.2	−2.6	58.7	.5	41.7	−3.9	44.2	−1.9	32.8	−3.4
Central	53.0	−2.1	67.5	.7	50.6	−3.2	52.6	−2.5	41.8	−2.3
West	48.5	−1.4	60.8	−1.6	47.3	−.4	47.7	−1.5	36.6	*−4.2
17-year-olds	48.1	*−3.6	62.6	.1	50.2	*−4.6	57.9	*−4.4	28.8	*−3.8
Sex										
Male	49.9	*−3.9	64.7	−.2	51.4	*−4.8	60.1	*−4.6	31.4	*−4.6
Female	46.4	*−3.2	60.7	.4	49.2	*−4.4	55.7	*−4.3	26.3	*−3.2
Racial/ethnic group										
White	51.0	*−3.5	65.5	.4	53.1	*−4.6	61.2	*−4.3	31.6	*−3.8
Black	30.9	*−2.8	45.9	−.4	33.1	*−3.0	37.8	*−3.6	12.4	*−2.9
Hispanic origin	36.0	*−2.3	50.2	−.6	37.9	*−3.7	45.2	−2.8	17.4	−.8
Region										
Northeast	51.3	*−3.2	66.5	.0	53.8	*−4.5	59.9	*−3.3	31.2	*−3.1
Southeast	43.6	*−3.8	58.4	.7	45.5	*−5.5	53.8	*−3.2	24.2	*−4.1
Central	50.8	−1.7	64.4	1.7	52.7	−2.3	62.0	−2.4	31.7	−2.6
West	45.4	*−5.8	59.9	−2.1	47.4	*−6.5	54.2	*−8.9	26.6	*−5.6

*Statistically significant at the 0.05 level.

NA Not available.

SOURCE: U.S Department of Health, Education, and Welfare, National Institute of Education, National Assessment of Educational Progress, *Changes in Mathematical Achievement, 1973–78*, 1979.

Chart 2.16
Change on Mathematical Assessment Between 1973 and 1978

Only 9-year-old blacks appreciably improved their scores on the mathematics assessment items measuring change between 1972–73 and 1977–78. Performance declined significantly among 13-year-old whites and females as well as among 17-year-olds across the sexes and in all racial/ethnic groups.

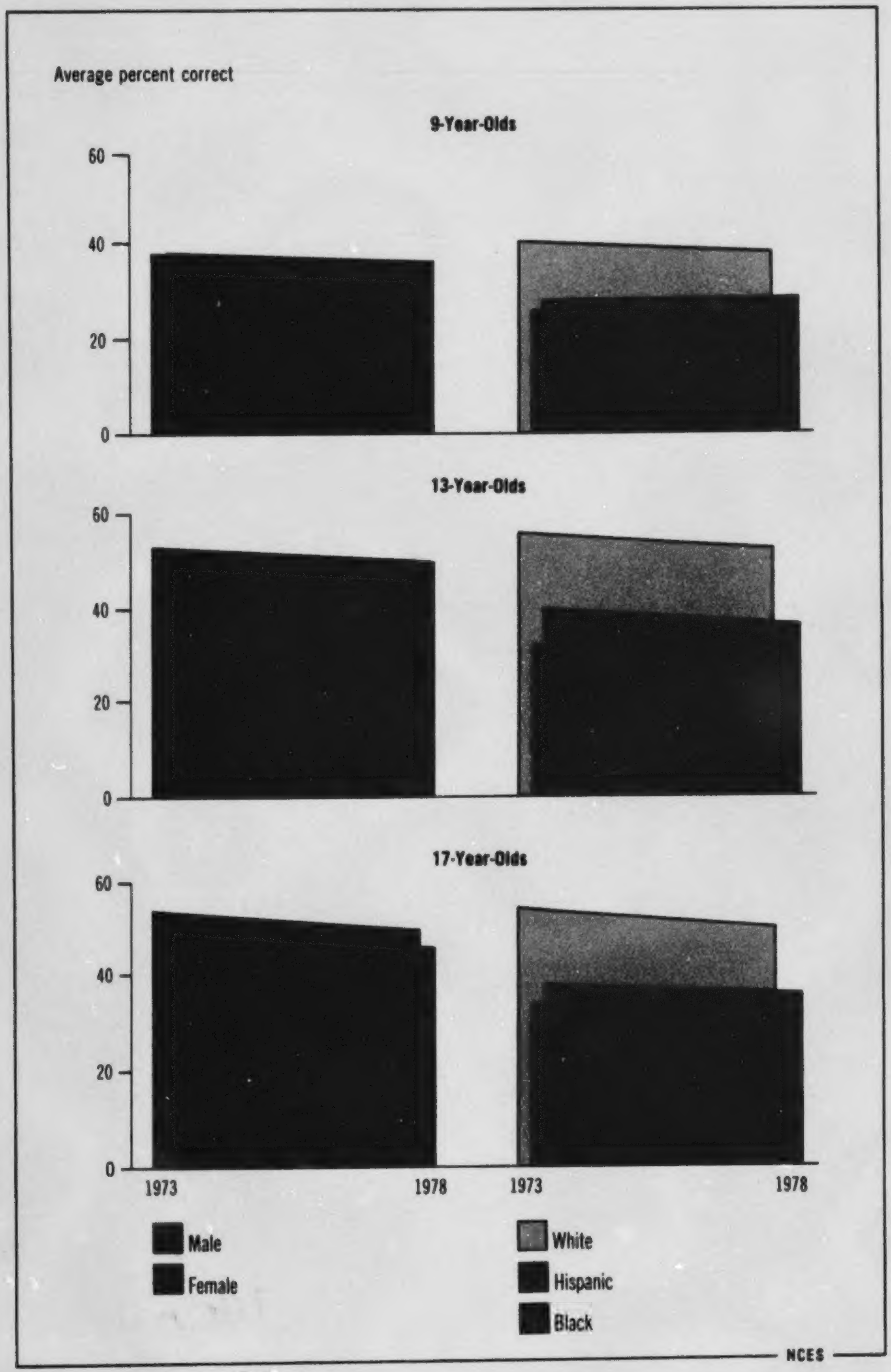

Table 2.17
Average percentages of correct responses of 17-year-olds on consumer assessment, by type of exercise and differences from average percentages, by sex, race, grade level, and parental education: Spring 1978

Item	Total	Behavior	Contracts	Economics	Energy	Finance	Mathematics	Protection	Purchases
Average percentages correct	57.0	67.7	53.3	59.8	40.8	56.0	56.9	56.5	60.4
Difference from average percentage:									
Sex									
Male	*1.0	*−1.2	*1.1	*1.0	*5.3	*1.5	*2.3	−.1	.2
Female	*−1.0	*1.1	*−1.1	*−.9	*−5.2	*−1.4	*−2.2	.2	−.2
Race									
White	*2.5	*3.2	*1.9	*2.1	*1.8	*2.6	*2.6	*2.9	*2.8
Black	*−12.9	*−15.7	*−10.5	*−9.8	*−9.5	*−13.1	*−15.0	*−14.6	*−15.2
Grade level									
2 or more years below modal grade	*−21.3	*−26.6	*−17.4	*−17.0	*−9.4	*−24.5	*−19.1	*−24.6	*−27.7
1 year below modal grade	*−10.4	*−11.2	*−7.7	*−11.0	*−5.8	*−10.4	*−10.9	*−10.6	*−12.5
At modal grade	*1.5	*1.4	*1.2	*1.2	*1.0	*1.8	*1.6	*1.7	*1.9
1 year above modal grade	*5.3	*7.8	*3.6	*6.7	.6	*5.4	*5.6	*6.3	*4.8
Parental education									
Not high school graduate	*−7.6	*−10.6	*−5.1	*−7.6	*−5.6	*−7.5	*−8.3	*−7.9	*−8.2
High school graduate	*−1.4	*−.9	−.6	*−1.4	*−1.7	*−1.4	*−2.3	*−1.5	*−1.6
Post high school	*4.5	*5.1	*3.0	*4.1	*3.6	*5.1	*4.9	*4.9	*5.0

*Statistically significant at the 0.05 level.

SOURCE: U.S. Department of Health, Education, and Welfare, National Institute of Education, National Assessment of Educational Progress, *Teenage Consumers: A Profile*, 1979.

Chart 2.17
Performance of 17-Year-Olds on Consumer Assessment

Seventeen-year-olds who were at least 1 year behind in school scored significantly below the average on the consumer knowledge and skills assessment. More than 21 percentage points separated the scores of students who were behind 2 or more years in school from the average.

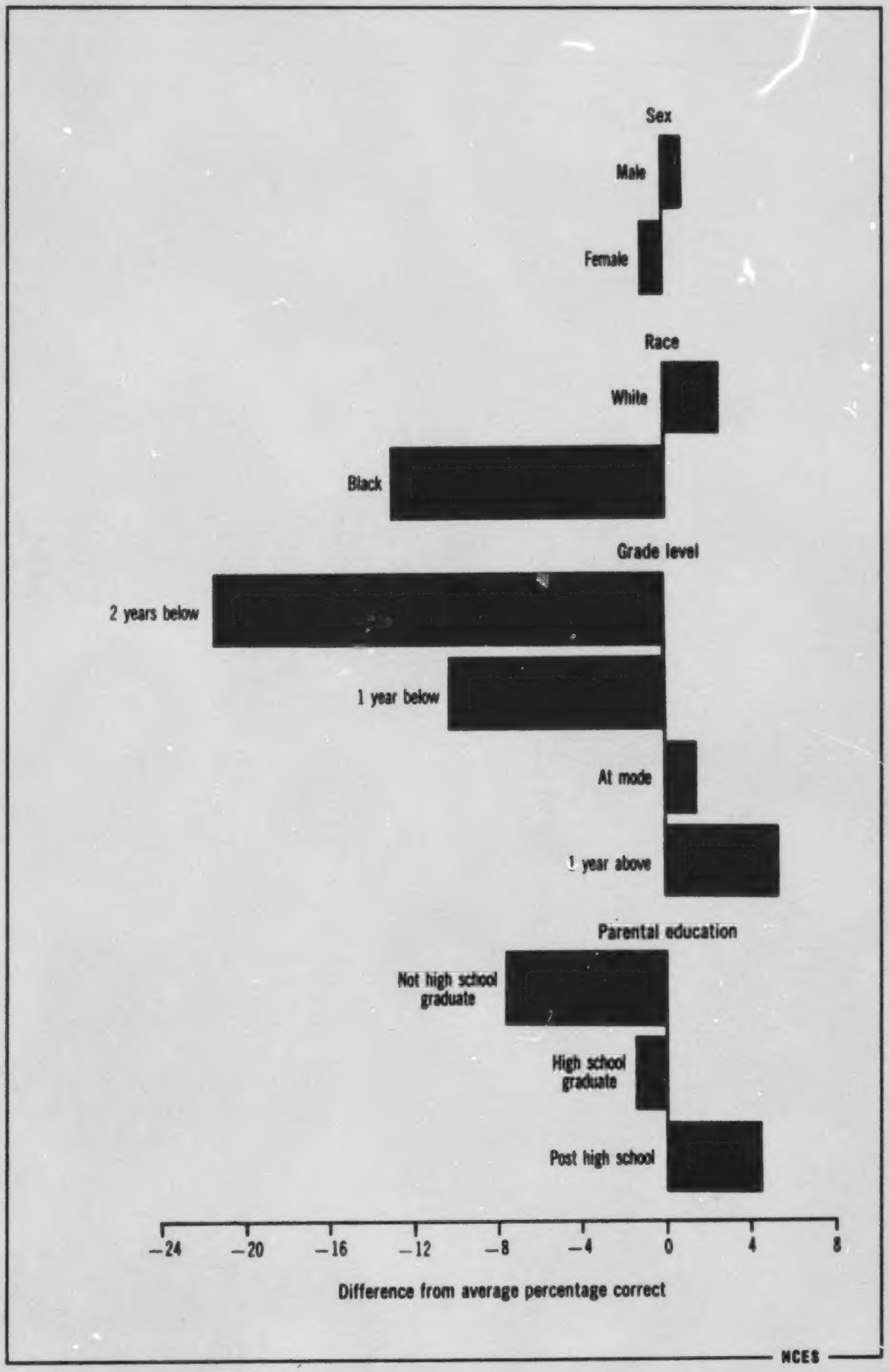

Table 2.18
Coursework requirements and use of nationally normed standardized testing by school districts, in mathematics, science, and social studies: 1977

District response	Mathematics	Science	Social studies
		Percentage distribution	
Specific courses required in subject			
Total	100	100	100
Required	**40**	**49**	**86**
Not required	52	43	8
Not reported	8	8	6
Years of subject required in 9th to 12th grade for high school graduation			
Total	100	100	100
Less than 1 year	2	4	2
1 year	54	47	5
More than 1 year	**33**	**33**	**74**
Not reported	11	16	20
Nationally normed standardized testing used in K to 6th grade			
Total	100	100	100
Used	**93**	**43**	**50**
Not used	7	51	45
Not reported	0	6	4
Nationally normed standardized testing used in 7th to 12th grade			
Total	100	100	100
Used	**67**	**33**	**33**
Not used	32	64	66
Not reported	1	3	1

NOTE: Details may not add to totals because of rounding.

SOURCE: Weiss, Iris R., Research Triangle Institute, *Report of the 1977 National Survey of Science, Mathematics, and Social Studies Education*, prepared for National Science Foundation, 1978.

Chart 2.18
School District Coursework Requirements and Use of Nationally Normed Testing by Subject

School districts more often required specific coursework and more years of study in social studies than in mathematics or science.

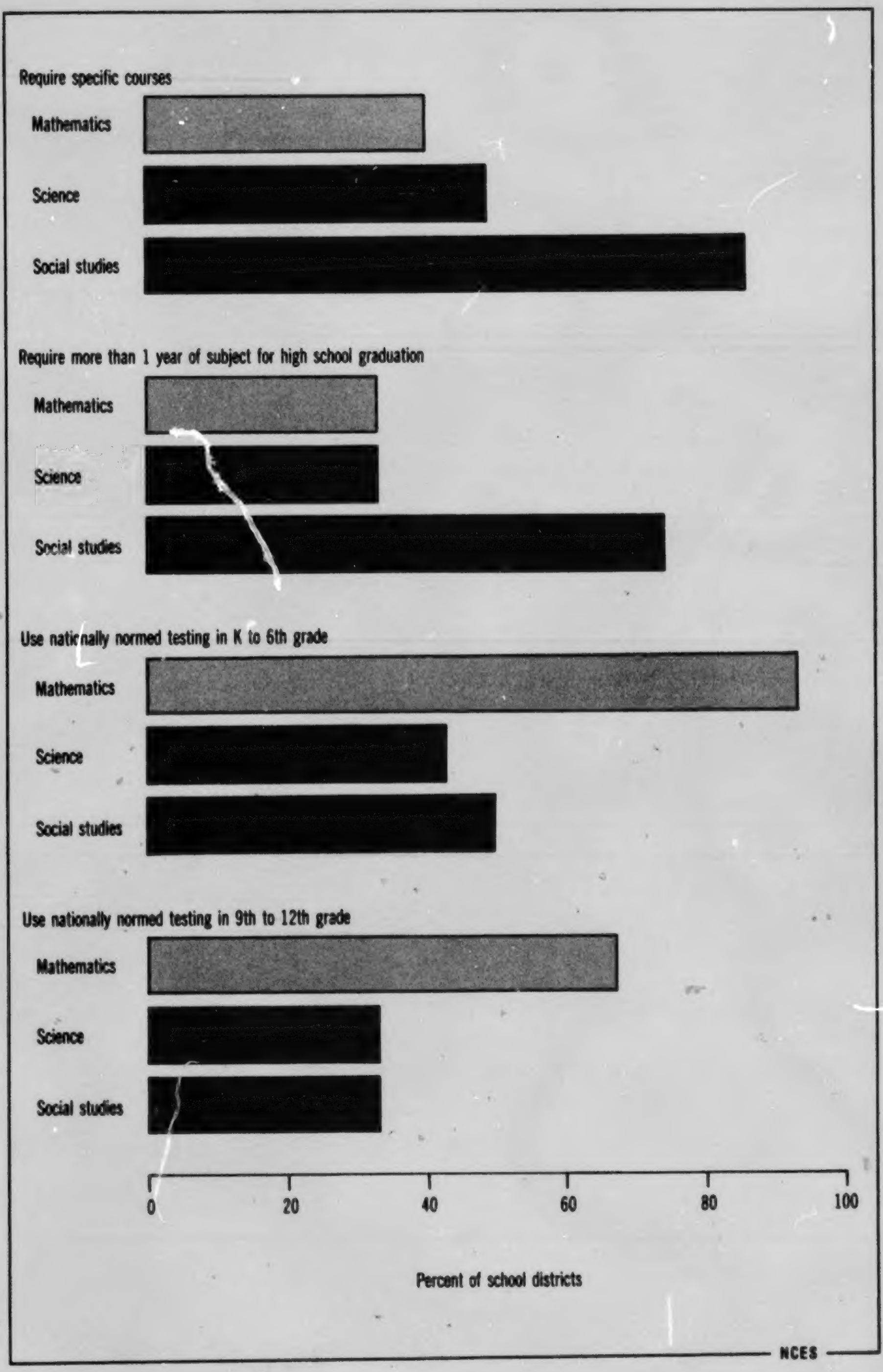

Table 2.19
States using minimum competency testing, by government level setting standards, grade levels assessed, and expected uses of standards: 1979

States using minimum competency testing	Government level setting standards	Grade levels assessed	Expected[1] uses of standards: Grade promotion	High school graduation	Early exit	Remediation	Other	First graduating class assessed
Alabama	State	3, 6, 9+		x		x		1981
Arizona	State/local	8, 12		x			x	1978
Arkansas	State	3, 4, 6, 8					x	
California	State/local	4–11, 16 yr. old+	x	x	x	x		1980
Colorado	Local	9, 12		Local option				
Connecticut	State/local	3, 5, 7, 9				x	x	
Delaware	State	11		x				1979
Florida	State/local	3, 5, 8, 11	x	x	x			1983
Georgia	State	4, 8, 10, 11					x	
Idaho	State	9–12		Local option				1982
Illinois	Local	Local option					Local option	
Indiana	Local	3, 6, 8, 10				x	x	
Kansas	State	2–4, 6, 8, 9, 11, 12					Local option	
Kentucky	State/local	3, 5, 7, 8, 10, 11					x	
Louisiana	State	4, 8, 11					x	
Maine	State	9, 11					x	
Maryland	State	3, 7, 9, 11	x	x		x		
Massachusetts	Local	Local option					x	
Michigan	State	4, 7, 10					Local option	
Missouri	State	8					x	
Nebraska	Local	5+					x	
Nevada	State	3, 6, 9, 12		x		x		
New Hampshire	State	4, 8, 12					Local option	
New Jersey	State	3, 6, 9–12		x		x	x	1985
New Mexico	State	Local option, 10					x	
New York	State	3, 6, 8–12		x		x		1979
North Carolina	State	1–3, 6, 9, 11		x				1980
Oklahoma	None	3, 6, 9, 12					x	
Oregon	Local	Local option		x				1978
Rhode Island	State	4, 8, 10					x	
South Carolina	State	1–3, 6, 8, 11				x	x	
Tennessee	State/local	4–6, 8, 11, 12		x		x	x	1982
Texas	Not reported	3, 5, 9+				x		
Utah	Local	Local option		x				1980
Vermont	State	K–12		x			x	1981
Virginia	State/local	K–6, 9–12		x				1981
Washington	Local	4, 8					Local option	
Wyoming	Local	Local option		x				

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[1] In most States uses of standards will be phased in and are not yet in effect.

SOURCE: Education Commission of the States, Department of Research and Information, *States Activity—Minimum Competency Testing*, 1980, forthcoming.

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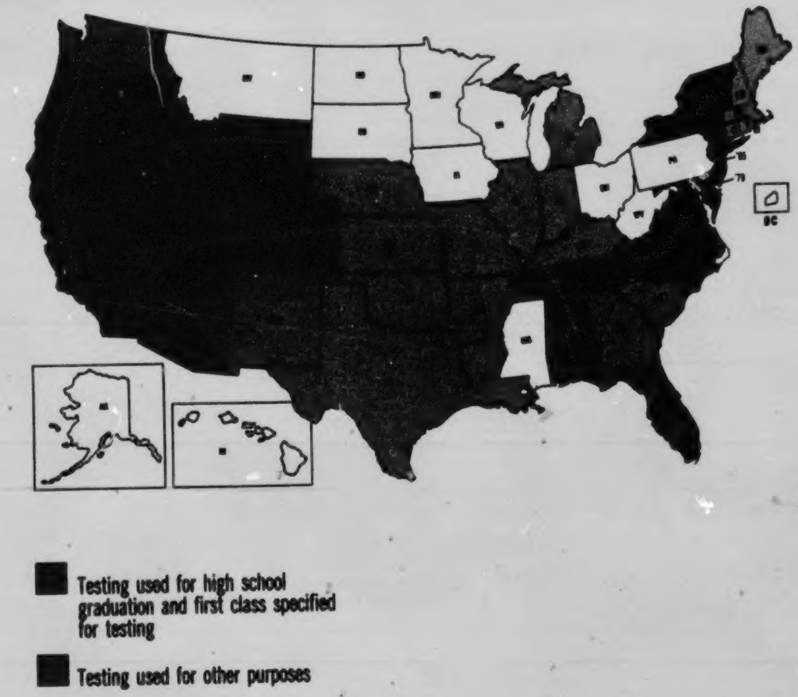
Chart 2.19
Minimum Competency Testing for High School Graduation

Of the States that have implemented competency testing, almost half planned to use testing for high school graduation, many beginning in the early 1980's.


DC
■ Testing used for high school graduation and first class specified for testing
■ Testing used for other purposes

NCES

Table 2.20
Opinions of secondary school seniors toward uses of competency testing, by college plans: 1977 and 1979

Item	1977			1979		
		4 year college plans			4 year college plans	
	Total	Yes	No	Total	Yes	No
	Percentage distribution					
Some people have suggested that there be a standard nationwide test of high school skills in arithmetic, reading and writing. What do you think about each of the following possible uses of such a test?						
Any student age 16 or older who can pass such a test should be given a high school diploma and be allowed to leave high school early						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Disagree	31.7	34.1	29.5	36.1	39.3	32.1
Mostly disagree	21.4	23.8	18.9	22.6	24.8	19.7
Neither	14.0	13.1	15.4	15.3	13.1	18.1
Mostly agree	18.4	17.7	18.8	14.5	15.0	14.1
Agree	14.6	11.4	17.4	11.5	7.8	16.1
Any student age 14 or older who can pass such a test should be given a high school diploma and be allowed to leave high school early						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Disagree	59.2	62.9	55.6	66.1	69.6	61.7
Mostly disagree	20.6	20.9	20.4	18.2	18.1	18.2
Neither	11.2	9.1	13.7	10.1	7.9	12.7
Mostly agree	4.2	4.0	4.4	3.0	2.2	3.8
Agree	4.6	3.1	5.9	2.7	2.0	3.6
Before any student (no matter what age) is given a high school diploma, he or she should have to pass such a standard nationwide test						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Disagree	32.7	28.4	36.8	23.8	20.7	27.6
Mostly disagree	12.5	12.6	12.3	9.8	9.7	10.5
Neither	15.8	14.4	17.4	15.5	13.3	18.0
Mostly agree	17.1	19.3	15.3	21.2	23.9	18.1
Agree	21.9	25.3	18.2	29.6	32.3	25.[illegible]

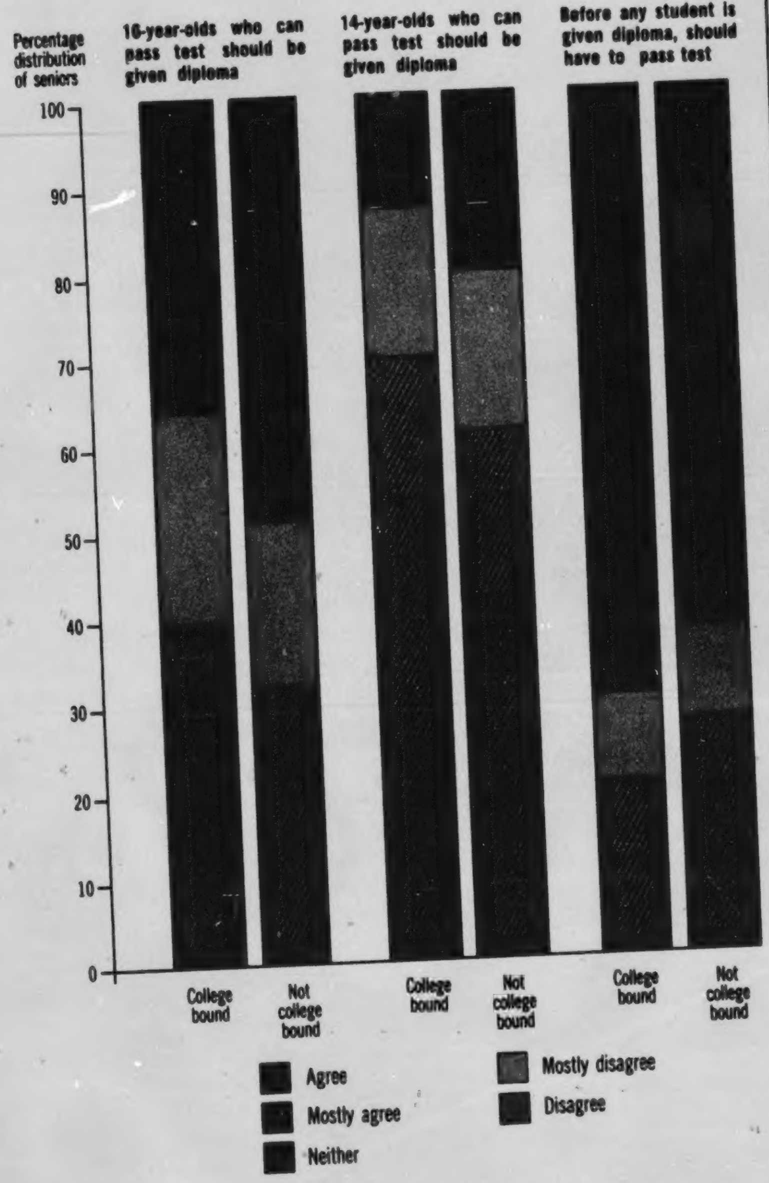
[1] May include those who do have plans to continue their education beyond high school in two-year vocational programs, internships, and the like.

NOTE: Details may not add to totals because of rounding.

SOURCE: Institute for Social Research, The University of Michigan, *Monitoring the Future: Questionnaire Responses from the Nation's High School Seniors* and unpublished tabulations.

Chart 2.20
Competency Testing: Opinions of High School Seniors

Compared to the college-bound, more seniors not planning to attend a 4-year college agreed with the statement that 16-year-olds successful on a competency test should be allowed to leave school early. Much smaller proportions of both groups supported the idea of allowing 14-year-olds to leave school early after passing such examinations.



NCES

Recent issues in higher education have centered on the effects of the coming decline in the size of the traditional college-age population. These issues include the lowering of admission standards, tenure, salaries, and employment status of faculty, financial problems of institutions, and developing new markets for higher education. All of these are related to the decline of the 18- to 24-year-old population that will begin in 1982 and continue throughout the decade. As shown in chapter 1, this age group will number approximately 27.9 million by 1985 and 25.1 million by 1990, dropping by 6 and 15 percent, respectively, from the 1981 peak year.

The relationship of these population changes to participation in higher education, as well as its effects on institutions and faculty, are explored in this chapter. Educational and economic outcomes of students in higher education are presented in the last section. A detailed discussion of higher education finance is presented in chapter 4.

Participation in Higher Education

Enrollment in higher education grew rapidly in the 1960's and the first half of the 1970's, but began to fluctuate after 1975. Minor dips in enrollment occurred in 1976 and again in 1978, but total enrollment remained at more than 11 million in the latter part of that decade (entry 3.1). Based on the assumption that age-specific enrollment rates by sex and attendance status will remain constant throughout the 1980's, enrollment is expected to increase to a high of 11,690,000 in 1981, the year that the 18- to 24-year-old population will peak. Using this projection model, enrollments will then begin to decrease to a low of 11,048,000 by the 1988–89 academic year.

Two other projection models shown in entry 3.1, a high and a low alternative, vary by 5 million in 1988. These are shown primarily to indicate the level of uncertainty involved in making higher education enrollment projections. Although there is little uncertainty involved in projecting the traditional college-age population, social and economic factors that influence enrollment rates may vary widely. The intermediate alternative projection discussed in the previous paragraph indicates that enrollment declines will not be as severe as population declines. Much of the impact of the traditional college-age population decline is expected to be offset by older groups of students enrolling in college.

In 1972, 29 percent of those age 18 and over enrolled in college were over 24 years old. By 1978, the proportion had risen to 35 percent. Enrollment of 18- to 24-year-olds peaked in 1976 at 115 percent of the number enrolled in 1972, but enrollment of older students grew at a much faster rate (entry 3.2). In 1977, enrollment of persons over age 24 was 162 percent of the 1972 figure, dropping to 152 percent in 1978.

Most of the increase in enrollment of both traditional college-age groups and older students can be attributed to increased participation of women. Male enrollment of the younger group stayed within 5 percent of the 1972 traditional college-age male enrollment and in the older group increased by a maximum of 35 percent during that period. Women's participation in higher education grew at faster rates for both age groups, reaching 129 percent of 1972 enrollment for females in the younger age group and 207 percent in the older age group. Women in the 30- to 34-year-old age group had the highest growth rates, reaching 240 percent in 1977 of their 1972 enrollment, dropping slightly in 1978 to 238 percent of the 1972 figure. The baby boom generation will be over the age of 25 by the 1980's, and this large pool of potential college students is expected to soften the impact of the decline in the traditional college-age population.

The majority, 60 percent, of students over 25 years old were enrolled in the first 4 years of college and 70 percent attended part time in 1978. The increase in the number of these older, part-time students in the 1970's has contributed to the increase in undergraduate part-time enrollment. In both public and private institutions of higher education, part-time undergraduate enrollment increased at a much faster rate than full-time enrollment (entry 3.3). In 1978, part-time undergraduate enrollment in public institutions was 70 percent greater than in 1970, and in private institutions, it had increased by 25 percent. Full-time undergraduate enrollment had leveled off during the same period.

The traditional college-age student tends to enroll full time, while older students are more likely to enroll on a part-time basis. Even with the enrollment increases of older students, women, and part-time students, higher education enrollment is expected to decline in the 1980's. Full-time-equivalent enrollment will decrease to an even greater extent because the expected growth in part-time enrollment will not be enough to offset full-time enrollment decreases.

Enrollment of foreign students in United States institutions of higher education has also been increasing, and at faster rates than total enrollment (entry 3.4). In 1970 there were 134,959 such students, or an average of 78 foreign students for each reporting institution. By 1978 the number had increased to 235,509, or an average of 86 students for each reporting institution. The foreign students in the United States in 1978 came from more than 175 countries. Nearly 64 percent came from 15 countries. Iran, with 15 percent of foreign students, sent more students than any other country. Over 90 percent of foreign students attended college on a full-time basis in 1978. While such students currently represent only 2 percent of total enrollment, the shrinkage of the traditional college-age group may make this potential market attractive to institutions seeking to maintain full-time enrollment levels.

Racial and ethnic minorities increased their participation in higher education during the 1970's, but differences continued in the type of institution attended by these groups. While the largest proportion, 34 percent of all students, attended public 2-year institutions in fall 1978, the proportion was lower for whites than for other racial/ethnic groups (entry 3.5). More than one-half of Hispanic and American Indian/Alaskan Native students attended public 2-year colleges, compared to 39 percent of black students and only one-third of white students. The proportion of whites who attended public universities was larger than that of any other group. Both whites and Hispanics had approximately equal representation of males and females attending college in 1978, but a larger proportion, 57 percent of black students, were female (entry 3.6). White and black females were more likely to attend college on a part-time basis than were their male counterparts and the difference was greater in 2-year than in 4-year institutions.

Institutions and Staff

The number of institutions and branches of higher education in existence in the fall of 1978 was 3,134, an increase of 122 over the number 5 years earlier (entry 3.7). The largest growth among private schools was in the number of 4-year independent non-profit institutions that increased from 630 to 684 institutions during that period. The number of institutions affiliated with the Roman Catholic Church decreased by 15, and the number of 2-year institutions affiliated with Protestant churches decreased by 14. Among public institutions, those schools controlled by local governments decreased by 125 schools, but an increase of 142 schools in those controlled jointly by State and local governments shows the shift toward State control of institutions of higher education. Nearly all public institutions were coeducational, as were 86 percent of private institutions in 1978. The number of men-only and women-only private institutions dropped by 27 schools between 1974 and 1978.

One of the current issues in higher education associated with declining enrollments is the closing of institutions. Schools go out of business for a number of reasons, but the primary ones are financial difficulties and the failure to attract students. During the 1960's, when higher education was in its most rapid period of growth, 77 institutions closed their doors (entry 3.8). But during the 1970's nearly double that number, 144, closed. In both periods, most of the schools that closed were private. Nearly one-half of the 77 schools that closed in the 1960's were private 2-year institutions and these closings occurred during the period of rapid growth of public 2-year community colleges. Of the colleges that closed during the 1970's, nearly one-half were private 4-year institutions, most of which were small (less than 1,000 students) and offered liberal arts curriculums. This type of school has traditionally enrolled full-time undergraduates in the 18 to 22 age group. As this population group declines in the 1980's, the small private liberal arts institutions will face increasing competition for students. As was shown in entry 3.1, enrollment in private 4-year institutions is projected to decrease by 191,000 during the 1980's. If private 4-year institutions with enrollment of under 1,000 are forced to absorb most of this decline, the decade of the 1980's may see as many as 200 such institutions close their doors.

Colleges and universities were facing student housing shortages during the 1960's when enrollment was growing at a faster rate than dormitories could be built. Also during that period, the proportions of students living in college housing was very high. In 1966, 41 percent of unmarried students age 14 to 21, and 18 percent of unmarried 22- to 34-year-olds lived in college housing (entry 3.9). But those proportions dropped in the 1970's. By 1976, of the younger and older students, only 36 and 7 percent, respectively, were living in college housing. The potential problem of unused dormitory space caused by enrollment declines in the 1980's may be increased by this trend away from student use of college housing.

The number of institutional staff in higher education grew from 573,000 in 1970 to 793,000 in 1976, a 38 percent increase in faculty compared to a 28 percent increase in enrollment in the same period (entry 3.10). Faculty for 1977 and 1978 are estimated to be 812,000 and 809,000, respectively, based on enrollment for those years and recent student-teacher ratios. Projections into the 1980's are made on the same basis, showing the number of faculty beginning to decrease in 1982 and continuing through 1988 when it is expected to be approximately 759,000.

Part-time faculty increased at a faster rate than full-time faculty. Between 1970 and 1978, part-time instructional staff doubled while full-time staff increased by 21 percent, so that total faculty estimated on a full-time-equivalent basis shows a slower growth rate than the unadjusted total number of faculty. In 1978, 31 percent of all instructional staff were employed on a part-time basis and this ratio is used to project part-time faculty into the 1980's. Some observers have suggested that the ratio of part-time to full-time faculty may increase instead of remaining stable because colleges find that the lower costs and reduced commitment associated with part-time faculty is preferable in an era of uncertain or declining enrollment.

Another issue associated with declining enrollment is faculty tenure. In the 1978–79 academic year, 56 percent of the full-time instructional salaried faculty were tenured (entry 3.11). As the number of faculty declines in the 1980's, those already in tenured teaching positions, hired during higher education's growth era, may block access of new entrants to the profession. Higher education may be facing the loss of a generation of scholars as doctoral recipients of the late 1970's and 1980's search elsewhere for employment.

The outlook for women's employment and tenure status in higher education appears to be bleak. In the 1978–79 academic year, 74 percent of total faculty was male, and males held 81 percent of the tenured positions. The situation varies by type and control of the institution, but in each case, the proportion of tenured faculty that is female is even lower than the proportion of females in the total faculty. Women have been earning doctoral degrees at increasing rates, but the chances of increasing their representation in academic employment are small, at least through the decade of the 1980's.

Faculty salaries averaged 82 percent more in 1979 than in 1968, but during that period, the Consumer Price Index more than doubled (entry 3.12). The result was that the average faculty salary, adjusted for inflation, dropped by more than $1,000, from $11,033 to $9,990. This erosion in the economic position of academics is expected to continue in the 1980's and possibly worsen. Reasons for this situation include increases in the supply of potential academics and the slackening of demand as enrollments taper off and decline. Since the largest proportion of college and university expenditure is for faculty salaries, the financial condition of these institutions in the 1980's will be the major factor affecting the economic position of academics. These conditions will be explored in greater detail in the next chapter.

The number of libraries and their staff in colleges and universities remained fairly constant between 1975 and 1977 (entry 3.13). Library expenditures constituted nearly 4 percent of higher education expenditures, and about 60 percent of library expenditures was for staff salaries in 1977. Nearly $150 per full-time-equivalent student was spent in that year. Library staff numbered 57,087 in 1977, a slight increase over the number in 1975. Of this staff, women outnumbered men by nearly 3 to 1, but women's salaries were lower than men's at every level of employment. In 1977, women administrators of libraries earned an average of $5,000 less than men at the same level, and women librarians averaged $2,800 less than their male counterparts. Even at the nonprofessional level, the 28,000 women earned an average of $2,000 less than the 5,700 men employed in libraries.

Aspirations and Outcomes

More than 1.3 million degrees at the bachelor's level and above were conferred by institutions of higher education in 1978 (entry 3.14). Of this total, more than two-thirds were bachelor's degrees. In 5 years, from 1970 to 1974, the number of bachelor's degrees awarded grew by nearly 20 percent before leveling off in the latter part of the decade. During this leveling-off period, the number of bachelor's degrees awarded to men decreased, while those awarded to women continued to increase. By 1978, women earned 47 percent of all bachelor's degrees. The number of degrees awarded at the bachelor's level is projected to increase to a high of 965,100 in 1982 and then to begin decreasing to below 1973 levels as enrollment declines.

First-professional degrees, those requiring at least 6 years to complete, have grown more rapidly than any other degree level during the 1970's. These consist of degrees in the fields of law, theology, and the various areas of medicine. The number of these degrees awarded in 1978 was 66,581 and represented a 93-percent increase over the 1970 figure. The proportion of women earning first-professional degrees rose from 5 percent in 1970 to nearly 22 percent in 1978. Both the number of such degrees awarded and the proportion awarded to women are projected to continue increasing throughout the 1980's.

The number of master's degrees conferred by institutions of higher education grew at a steady rate, reaching a high of 317,164 in 1977 before dropping slightly in 1978, while the number of doctor's degrees awarded peaked at 34,777 in 1973. At both levels, the proportion of women earning degrees rose steadily throughout the decade, reaching 48 percent of master's and doubling to 26 percent of doctor's degrees in 1978. In the 1980's the number of master's degrees awarded is projected to level off, with degrees awarded to men decreasing and those awarded to women increasing. Women are expected to represent over one-half of the master's degree recipients by 1980.

While the number of doctor's degrees awarded declined slowly during the latter part of the 1970's, it is expected to remain fairly steady, between 31,000 and 33,000, through 1984 before dropping again. By 1989, the number of doctor's degrees awarded is projected to be at a 20-year low point. Higher education has been a principal employer of doctor's degree recipients, and the projected declines in higher education enrollment, the economic condition of the academic profession, and the lack of relative growth in support for research in colleges and universities may combine to discourage those aspiring to the doctoral degree.

Changes occurred in the distribution by field of study of the bachelor's degrees awarded between 1970 and 1978 (entry 3.15). There were significant increases in the proportion of bachelor's degrees awarded in fields that, in the economic context of the 1970's, offered better prospects of employment. This trend may continue into the 1980's. An annual survey conducted by the Cooperative Institutional Research Program shows that nearly 78 percent of 1979 college freshmen cited "to get a better job" in response to a question on reasons for going to college, and this proportion was the highest in the 14 years since the survey began. Fields that showed growth in the proportion of bachelor's degrees awarded in the 1970's include business and management, all fields in the area of health and life sciences, computer and information sciences, and public affairs. Each of these is expected to continue to increase in the 1980's.

Some fields of study that were of high interest and offered good employment prospects in the 1960's decreased in proportion to other areas in the subsequent decade. In the 1960's, the need to educate the large numbers of 5- to 17-year-olds contributed to the substantial number of college students majoring in education. In 1970, the largest proportion of all bachelor's degree recipients, 20 percent, majored in education. As the supply of teachers began to outdistance the demand, this proportion began to drop and by 1978 it was less than 15 percent. While still the largest proportion of bachelor's recipients in that year, it is projected to continue dropping to a low of less than 9 percent by 1988. Social sciences is another field that increased in the 1960's, but decreased in the next decade. In 1970, 19 percent of bachelor's degrees were awarded in the social sciences. This proportion decreased to 13 percent in 1978 and is expected to drop below 9 percent by 1988.

Two other fields decreased in the past decade. The proportion of bachelor's degrees awarded in mathematics and statistics dropped from 3.5 to 1.4 percent between 1970 and 1978 and is projected to drop to less than 1 percent in the 1980's. The proportion of bachelor's degree recipients with majors in foreign languages had similar decreases—from 2.6 percent in 1970 to 1.4 percent in 1978, with a projection of less than 1 percent by 1988. The latter change has been the result of recent concern. In 1979, the President's Commission on Foreign Languages and International Studies recommended Federal Government initiatives that would increase the numbers of foreign language students.

The potential college students of the 1980's include those students who took the Scholastic Aptitude Test (SAT) in 1979. Mean test scores by students' first choice of intended area of study show some wide differences (entry 3.16). The four highest mean scores on the combined verbal and math SAT were found among those intending to study physical sciences (1,059), mathematics (1,039), English/literature (983), and engineering (981). Lowest combined mean scores were found among those intending to study trade and vocational (747), ethnic studies (758), home economics (806), and education (812). Low mean scores found among those intending to study education—392 on the verbal SAT and 420 on the math—have also been noted among those taking the Graduate Record Exam (GRE) with intentions of studying education at the graduate level.

A survey of the employment status of 1977 bachelor's degree recipients conducted in February 1978 shows that, of the approximately 927,200 graduates, 87 percent were in the labor force with an unemployment rate of 5.9 percent (entry 3.17). The labor force participation rate of these recent college graduates was higher than that of the civilian population in the same period, at 63 percent, but unemployment rates were comparable. Of the bachelor's degree recipients of 1977, 68 percent were employed on a full-time basis in February 1978. Only 35 percent were employed in a field that was closely related to their college major and this proportion was higher, 52 percent, for those obtaining degrees in the professions than for those with arts and sciences majors; only 19 percent of arts and sciences degree recipients obtained full-time employment in a closely related field.

As the number of college graduates increased in the 1970's, concern mounted that there would not be enough jobs requiring college degrees to meet the supply. As entry 3.17 shows, approximately 16 percent of recent college graduates were employed full time in jobs that required as a criteria for employment lower educational attainment. The proportion of graduates in such circumstances, called underemployment, was lowest among those with degrees in health and highest among social sciences majors.

An analysis of the occupations of all employed college graduates from the Bureau of Labor Statistics shows increases in the proportion employed in sales and clerical and blue-collar jobs (entry 3.18). In 1968, 11 percent of the men and 12 percent of the women college graduates held sales and clerical jobs compared to 14 percent for men and 20 percent for women in 1978. The proportion of men and women holding blue-collar and farm jobs increased from 6 and 3 percent, respectively, in 1968 to 10 and 6 percent in 1978. The proportion of the college graduates holding professional and managerial jobs declined in that period. Whites had smaller percentage decreases than blacks and other races in this occupation group, but at the same time, while the total number of white employed college graduates increased by more than two-thirds, the number of blacks and other races more than doubled.

One of the consequences of the increased competition among college graduates for jobs and the resulting growth in the numbers of college graduates who are underemployed is the narrowing of the income gap between workers with college experience and workers with lower educational attainment. The annual median income of year-round full-time male workers who were 25 years old and over and had 4 years of college was 42 percent greater than that of their counterparts with 4 years of high school in 1969 (entry 3.19). Ten years later the difference had dropped to 28 percent. Similar results were found among female workers.

While the income gap between those with college experience and those with no college had narrowed among male workers and among female workers, the comparison between males and females showed little change over the 10 year period regardless of educational attainment. For workers with the lowest level of educational attainment, less than 8 years of education, females' median income was 62.5 percent of males' in 1969, compared to 63.5 percent in 1978. For workers with the highest level of education, 5 or more years of college, females earned 67.2 percent of males' median income in 1969, dropping to 64.9 percent in 1978.

Table 3.1
Total enrollment in institutions of higher education, by type and control of institution, with alternative projections: Fall 1970 to fall 1988

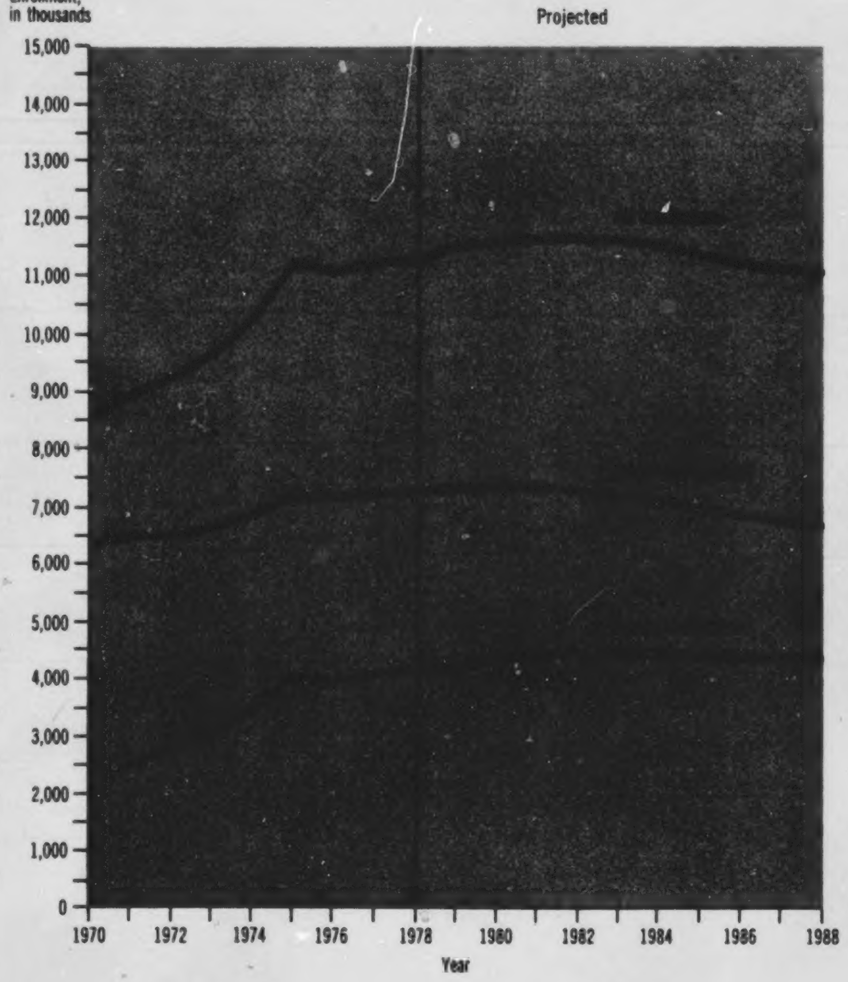
Fall of year	Total			Public			Private		
	All institutions	4-year institutions	2-year institutions	All institutions	4-year institutions	2-year institutions	All institutions	4-year institutions	2-year institutions
(In thousands)									
1970	**8,581**	**6,358**	**2,223**	6,428	4,326	2,102	2,153	2,032	121
1971	**8,949**	**6,463**	**2,486**	6,804	4,438	2,366	2,144	2,024	120
1972	**9,215**	**6,459**	**2,756**	7,071	4,430	2,641	2,144	2,029	115
1973	**9,602**	**6,592**	**3,012**	7,420	4,530	2,890	2,183	2,062	122
1974	**10,224**	**6,820**	**3,404**	7,989	4,703	3,285	2,234	2,117	119
1975	**11,185**	**7,215**	**3,970**	8,835	4,998	3,836	2,350	2,217	134
1976	**11,012**	**7,129**	**3,883**	8,653	4,902	3.752	2,359	2,227	132
1977	**11,286**	**7,243**	**4,042**	8,847	4,945	3,902	2,437	2,297	141
1978	**11,260**	**7,232**	**4,028**	8,748	4,912	3,873	2,475	2,320	155
Projected intermediate alternative									
1979	**11,508**	**7,292**	**4,216**	9,030	4,971	4,059	2,478	2,321	157
1980	**11,611**	**7,302**	**4,309**	9,124	4,976	4,148	2,487	2,326	161
1981	**11,690**	**7,309**	**4,381**	9,200	4,981	4,219	2,490	2,328	162
1982	**11,670**	**7,258**	**4,412**	9,194	4,945	4,249	2,476	2,313	163
1983	**11,613**	**7,187**	**4,426**	9,159	4,896	4,263	2,454	2,291	163
1984	**11,492**	**7,082**	**4,410**	9,072	4,823	4,249	2,420	2,259	161
1985	**11,358**	**6,968**	**4,390**	8,947	4,744	4,230	2,384	2,224	160
1986	**11,215**	**6,846**	**4,369**	8,872	4,661	4,211	2,343	2,185	158
1987	**11,104**	**6,751**	**4,353**	8,793	4,596	4,197	2,311	2,155	156
1988	**11,048**	**6,694**	**4,354**	8,754	4,557	4,197	2,294	2,137	157
Projected low alternative									
1979	11,139	7,042	4,097	8,746	4,802	3,944	2,393	2,240	153
1980	11,069	6,935	4,134	8,708	4,727	3,981	2,361	2,208	153
1981	10,985	6,828	4,157	8,659	4,655	4,004	2,326	2,173	153
1982	10,817	6,680	4,137	8,540	4,554	3,986	2,277	2,126	151
1983	10,618	6,518	4,100	8,394	4,442	3,952	2,224	2,076	148
1984	10,374	6,336	4,038	8,212	4,317	3,895	2,162	2,019	143
1985	10,128	6,152	3,976	8,029	4,193	3,836	2,099	1,959	140
1986	9,886	5,974	3,912	7,845	4,070	3,775	2,041	1,904	137
1987	9,684	5,824	3,860	7,693	3,968	3,725	1,991	1,856	135
1988	9,527	5,707	3,820	7,574	3,889	3,685	1,953	1,818	135
Projected high alternative									
1979	12,178	7,719	4,459	9,549	5,257	4,292	2,629	2,462	167
1980	12,568	7,909	4,659	9,870	5,385	4,485	2,698	2,524	174
1981	12,975	8,111	4,864	10,205	5,520	4,685	2,770	2,591	179
1982	13,281	8,254	5,027	10,459	5,617	4,842	2,822	2,637	185
1983	13,551	8,374	5,177	10,684	5,697	4,987	2,867	2,677	190
1984	13,752	8,456	5,296	10,854	5,750	5,104	2,898	2,706	192
1985	13,929	8,521	5,408	11,007	5,793	5,214	2,922	2,728	194
1986	14,091	8,574	5,517	11,149	5,828	5,321	2,942	2,746	196
1987	14,287	8,651	5,636	11,316	5,879	5,437	2,971	2,772	199
1988	14,539	8,766	5,773	11,527	5,958	5,569	3,012	2,808	204

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1988–89*, 1980.

Chart 3.1
Total Enrollment in Institutions of Higher Education

Although higher education enrollment increased from 1970 to 1975, the fluctuations in enrollment between 1975 and 1978 are expected to herald an eventual decline in enrollments starting in the early 1980's, based on intermediate alternative projections.



NCES

Table 3.2
Higher education enrollment indexes (1972 = 100), by age group and sex: 1972 to 1978

Year	Age group								
	Total 18 and over	Total 18 to 24	18 and 19	20 and 21	22 to 24	Total 25 and over	25 to 29	30 to 34	35 and over
	(Numbers in thousands)								
Enrollment in 1972	8,801	6,257	2,680	2,116	1,461	2,543	1,229	531	783
Male	5,078	3,534	1,366	1,170	998	1,544	848	330	366
Female	3,723	2,724	1,314	946	464	999	381	200	418
	Indexes (1972 = 100)								
Total enrollment									
1972	100	100	100	100	100	100	100	100	100
1973	99	97	94	98	100	103	104	104	100
1974	108	101	97	104	104	127	121	136	131
1975	120	111	110	109	115	144	132	161	151
1976	123	115	110	113	126	145	137	151	152
1977	128	114	109	115	123	162	147	187	170
1978	124	112	108	109	123	152	132	179	166
Male enrollment									
1972	100	100	100	100	100	100	100	100	100
1973	97	95	95	97	94	101	102	100	101
1974	104	96	92	103	94	120	112	127	130
1975	114	104	104	107	101	135	121	150	156
1976	112	104	102	103	108	130	126	137	134
1977	114	105	102	109	104	134	122	155	142
1978	108	102	102	103	103	120	109	144	125
Female enrollment									
1972	100	100	100	100	100	100	100	100	100
1973	101	99	93	100	114	105	108	111	100
1974	115	107	102	104	126	138	139	150	131
1975	129	119	115	112	144	156	155	178	147
1976	139	129	118	126	167	167	162	176	166
1977	148	126	115	122	164	207	203	240	194
1978	145	124	115	116	166	202	183	238	202

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S.Department of Commerce, Bureau of the Census, *Social and Economic Characteristics of Students*, P-20, various years, and unpublished tabulations.

Chart 3.2
Higher Education Enrollment Indexes by Sex and Age Group

The largest higher education enrollment rate increases occurred among 30-to 34-year-old females between 1972 and 1978. By 1978, the number of females 25 years old and older attending college had more than doubled.

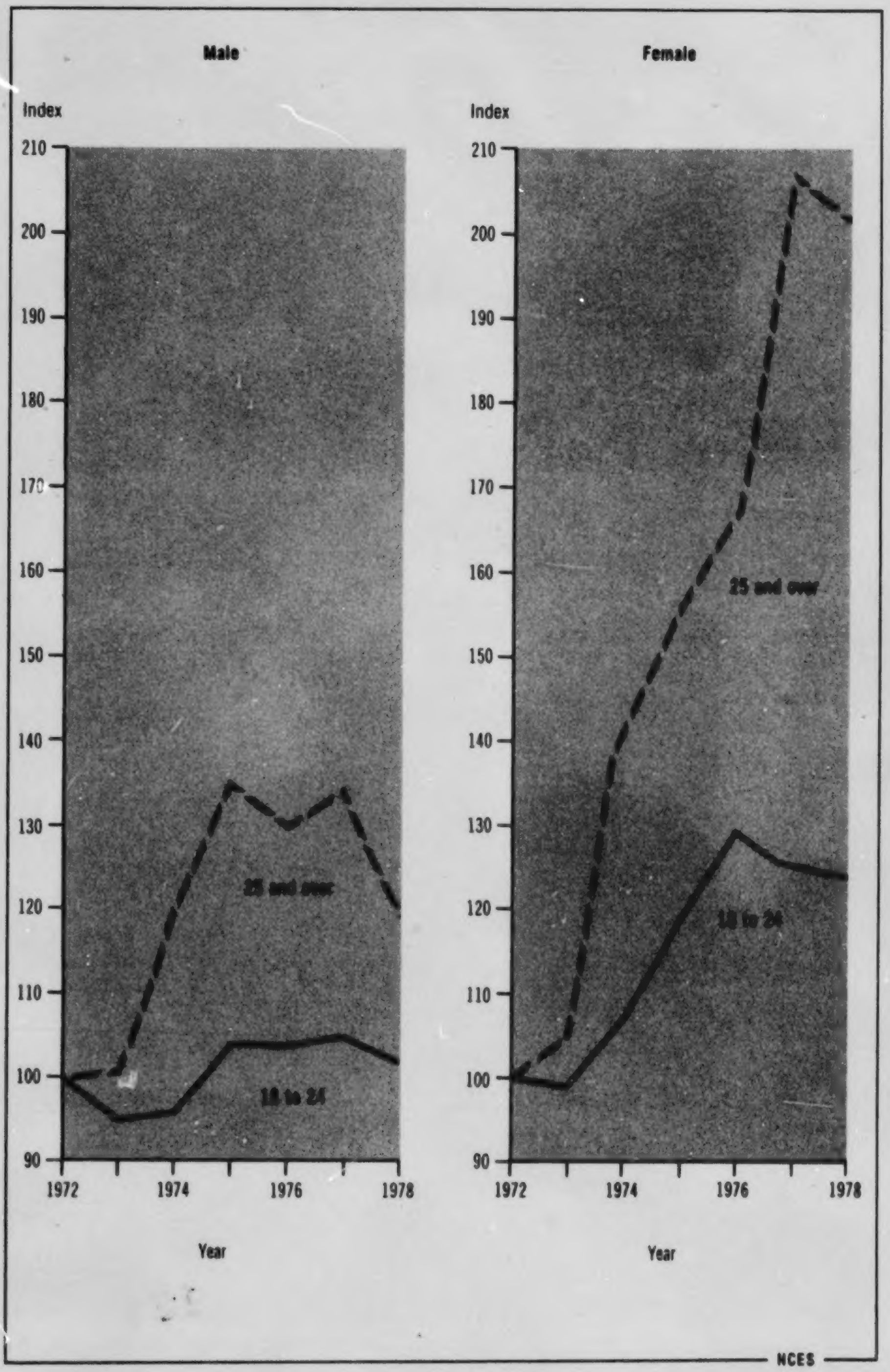


Table 3.3
Higher education enrollment indexes by control of institution, attendance status, and level of enrollment: Fall 1970 to fall 1978

Item	1970	1971	1972	1973	1974	1975	1976	1977	1978
					Percent of 1970 enrollment				
Public:									
Undergraduate	100	107	110	113	120	130	127	130	128
Full-time	100	105	105	107	110	118	115	116	113
Part-time	100	111	122	128	148	162	157	166	170
Graduate and first professional	100	98	104	111	118	124	102	101	100
Full-time	100	106	108	114	120	124	116	116	115
Part-time	100	93	102	108	117	124	93	91	90
Private:									
Undergraduate	100	100	99	99	100	105	105	110	112
Full-time	100	100	99	98	99	104	105	109	110
Part-time	100	103	99	103	105	109	111	119	125
Graduate and first professional	100	101	105	110	116	123	123	127	132
Full-time	100	104	109	113	120	127	128	134	138
Part-time	100	97	100	106	112	118	117	120	124

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics and American Council on Education, *Trends in Enrollment, 1970–77*, forthcoming, and unpublished tabulations.

Chart 3.3
Higher Education Enrollment Indexes by Level of Enrollment and Attendance Status

Between 1970 and 1978, part-time enrollment increased rapidly at the undergraduate level in both public and private institutions. At the graduate level, part-time enrollment increased in private institutions, although not as fast as full-time enrollment.

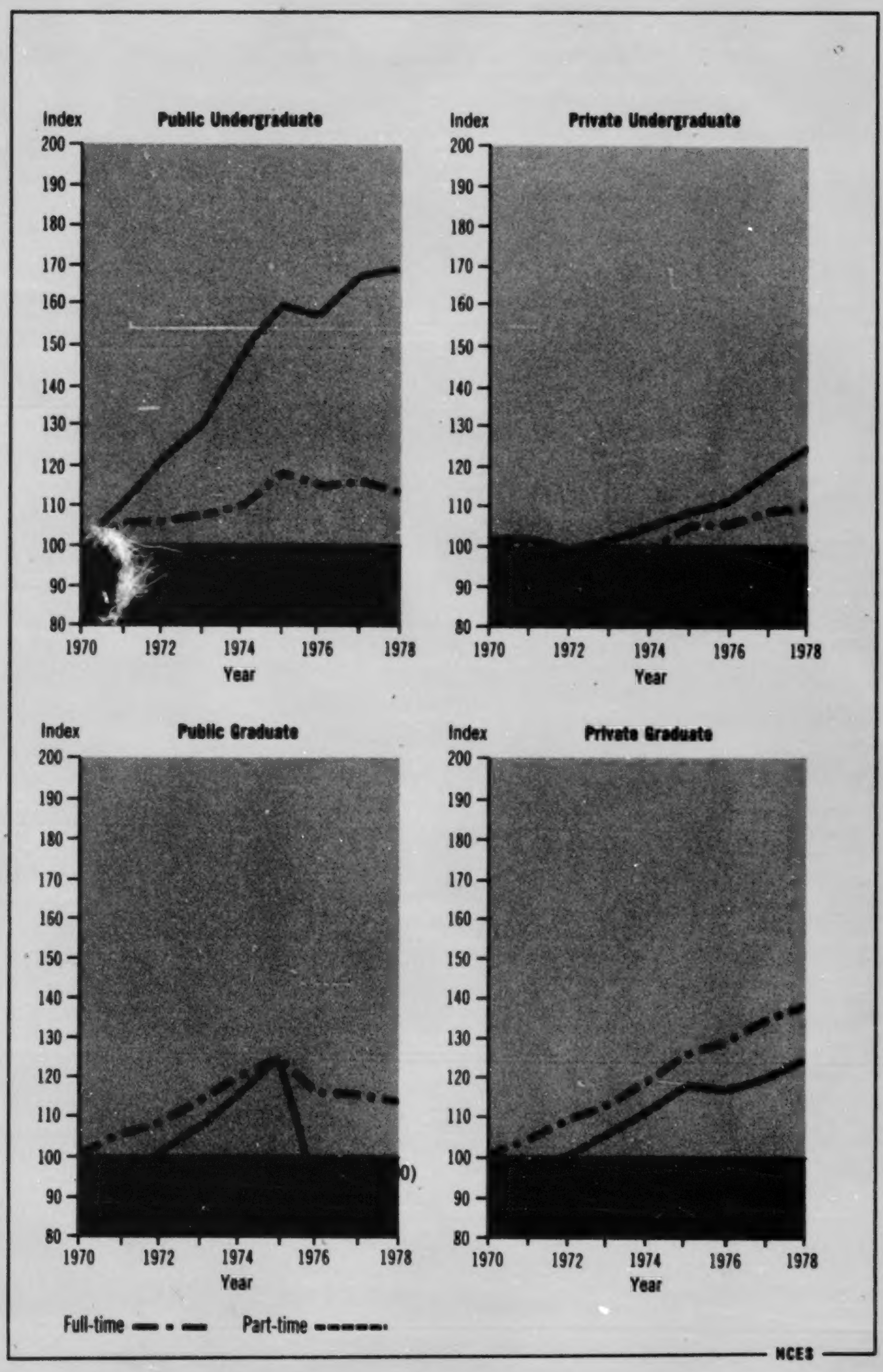


Table 3.4
Foreign students in institutions of higher education in the United States: 1969–70 to 1977–78

Item	1969–70	1971–72	1973–74	1975–76	1977–78
Institutions reporting[1]	1,734	1,650	1,359	2,261	2,738
Foreign students[2] reported	**134,959**	**114,024**	**125,116**	**179,344**	**235,509**
Foreign enrollment as a percent of total	1.7	1.3	1.3	1.6	2.1

Country	Countries of origin of foreign students in 1977–78	
	Number	Percent
Total	235,509	100.0
Iran	36,220	**15.4**
China, Republic of	13,650	**5.8**
Nigeria	13,510	**5.7**
Canada	12,600	**5.4**
Hong Kong	12,100	**5.1**
India	9,080	**3.9**
Japan	9,050	**3.8**
Venezuela	7,420	**3.2**
Vietnam, Republic of	6,640	**2.8**
Saudi Arabia	6,560	**2.8**
Thailand	6,340	2.7
Mexico	5,170	2.2
Korea, Republic of	4,220	1.8
United Kingdom	4,050	1.7
Cuba	3,530	1.5
All others	85,369	36.2

[1] The number of institutions responding to the survey was highest in 1977–78, representing 89.7 percent of all institutions surveyed.

[2] Defined as anyone enrolled for courses in the United States who is neither a U.S. citizen nor an immigrant who will settle permanently in the United States; refugees are considered foreign students.

SOURCE: Institute of International Education, *Open Doors/1977–78—Report on International Education Exchange*, Copyright ©, 1979 Institute of International Education.

Chart 3.4
Foreign Students in Institutions of Higher Education

~~The num~~ber of foreign students in United States institutions of higher education reached 235,509 in 1978. The largest proportion, 15 percent, was from Iran in that year.

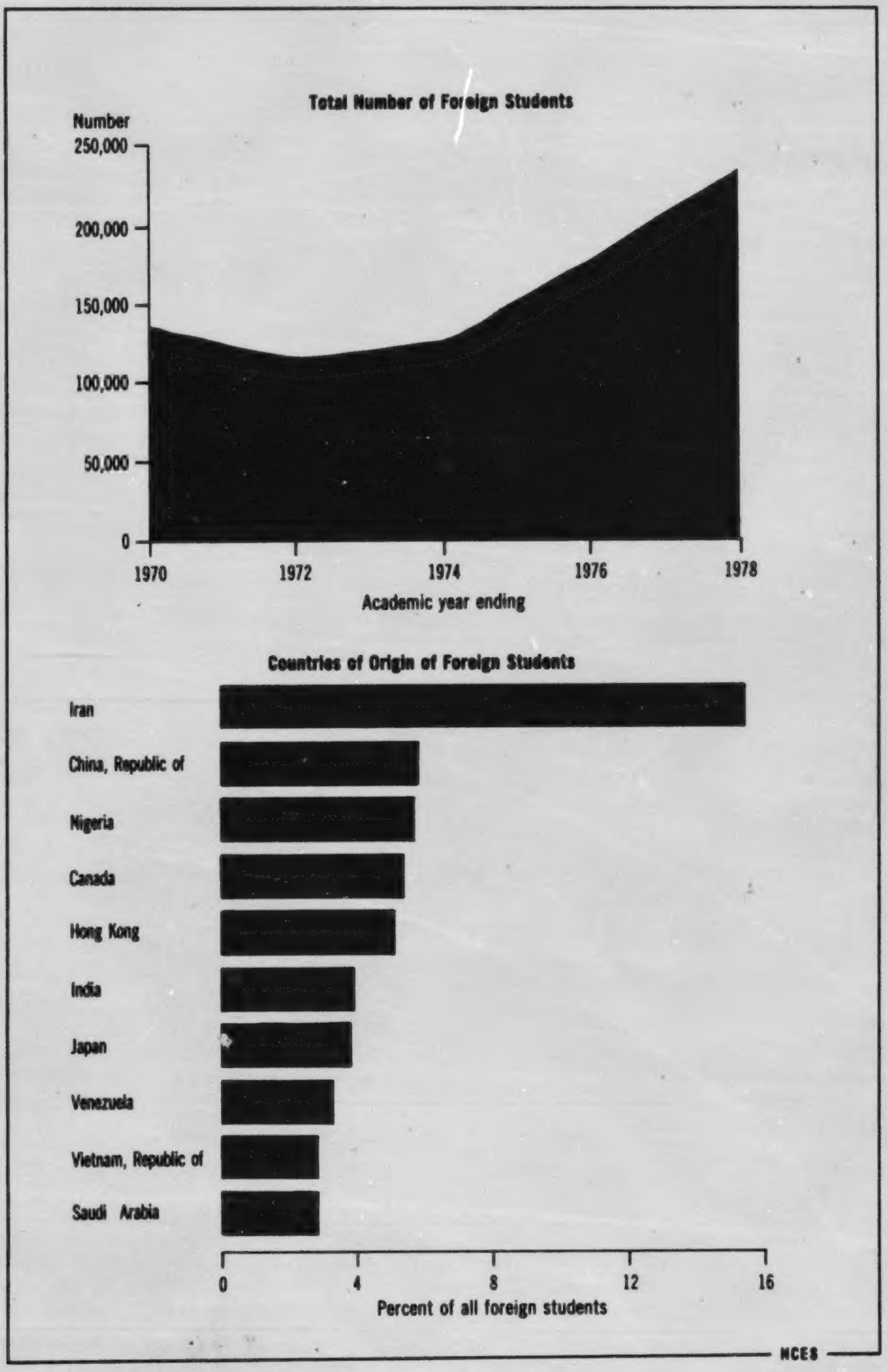


Table 3.5
Enrollment in institutions of higher education, by racial/ethnic group and control and type of institution: Fall 1978

Type and control of institution	Total[1]	White[2]	Black[2]	Hispanic	Asian or Pacific Islander	American Indian/ Alaskan Native	Non-resident alien
All institutions:							
Number	11,231,172	9,194,031	1,054,371	417,271	235,064	77,873	252,580
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Public universities:							
Number	2,062,293	1,807,325	102,162	36,027	42,633	9,738	64,408
Percent	18.4	19.7	9.7	8.6	18.1	12.5	15.5
Private universities:							
Number	718,434	600,237	44,825	17,091	17,871	2,266	36,144
Percent	6.4	6.5	4.3	4.1	7.6	2.9	14.3
Public other 4-year:							
Number	2,833,759	2,277,778	322,718	104,221	56,468	17,447	55,127
Percent	25.2	24.8	30.6	25.0	24.0	22.4	21.8
Private other 4-year:							
Number	1,588,220	1,341,883	142,050	33,014	20,869	5,541	44,863
Percent	14.1	14.6	13.5	7.9	8.9	7.1	17.8
Public 2-year:							
Number	3,873,690	3,050,957	414,640	222,284	96,300	41,263	48,246
Percent	34.5	33.2	39.3	53.3	41.0	53.0	19.1
Private 2-year:							
Number	154,776	115,833	27,976	4,634	923	1,618	3,792
Percent	1.4	1.3	2.7	1.1	.4	2.1	1.5

[1] Represents the total head count for all races of students in the 50 States and D.C., a difference of 31,184 from the total head count of all students because some institutions were unable to identify the race of students enrolled.
[2] Non-Hispanic.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Fall Enrollment in Higher Education 1978*, 1980.

Chart 3.5
Percent of Racial/Ethnic Group Higher Education Enrollment by Type and Control of Institution

Whites and Asians or Pacific Islanders had higher proportions enrolled in universities than did other racial/ethnic groups. About the same proportion of blacks attended other 4-year institutions as 2-year institutions. Hispanics were more likely to be enrolled in 2-year colleges than in other institutions.

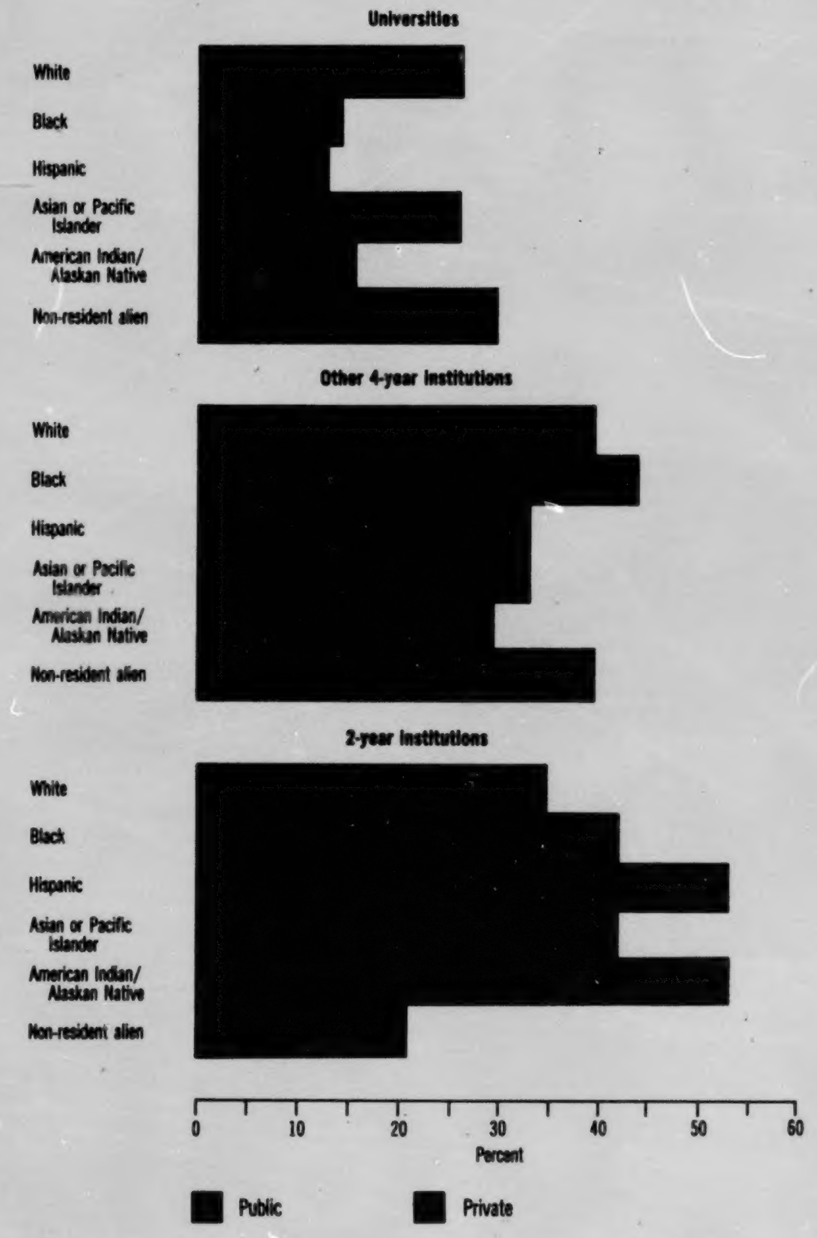


Table 3.6
Distribution of racial/ethnic groups in institutions of higher education, by level of institution and by attendance status and sex of students: Fall 1978

Racial/ethnic group	Total	4-year institutions				2-year institutions			
		Full-time		Part-time		Full-time		Part-time	
		Male	Female	Male	Female	Male	Female	Male	Female
	Percentage distribution								
White[1]	100.0	24.9	21.3	9.3	10.1	6.5	6.3	9.6	12.2
Black[1]	100.0	18.2	23.7	6.6	9.7	8.9	11.3	9.4	12.3
Hispanic	100.0	16.5	14.8	7.2	7.1	10.8	10.5	16.4	16.7

Dichotomous distributions

	Total	4-year institutions	2-year institutions	Total	Full-time	Part-time	Total	Male	Female
White[1]	100.0	65.6	34.4	100.0	58.9	41.1	100.0	50.2	49.8
Black[1]	100.0	58.0	42.0	100.0	62.0	38.0	100.0	43.0	57.0
Hispanic	100.0	45.6	54.4	100.0	52.6	47.4	100.0	50.9	49.1

[1] Non-Hispanic.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Fall Enrollment in Higher Education 1978*, 1979, and unpublished tabulations.

Chart 3.6
Distribution of Racial/Ethnic Groups in Higher Education

Hispanics were more likely to enroll part time than were blacks or whites. More black females than black males attended college in 1978.

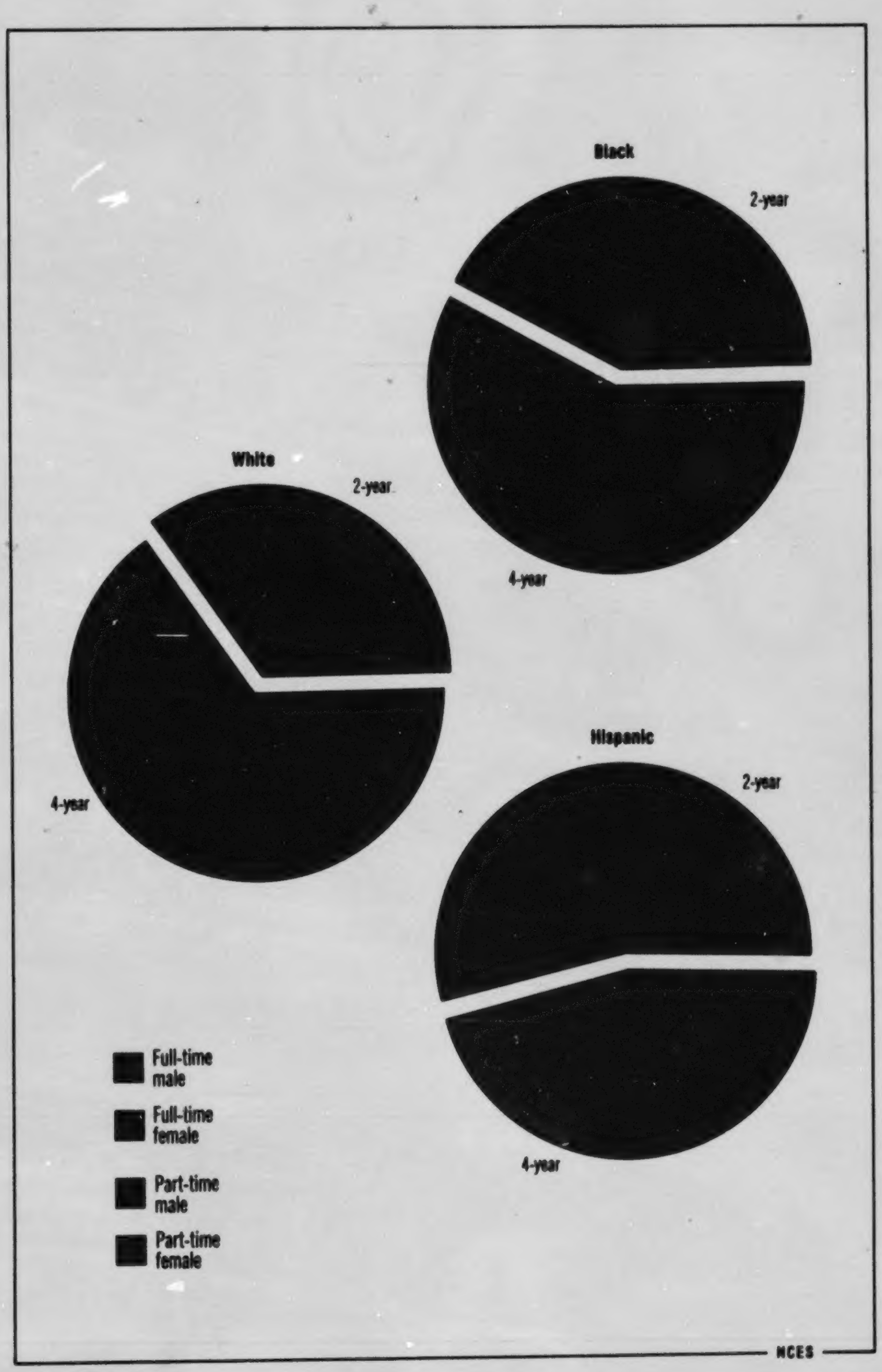


Table 3.7

Number of higher education institutions and branches, by level and control of institution, and by sex of student body: Fall 1974 and fall 1978

Control	All institutions			4-year institutions			2-year institutions		
	1974	1978	Change	1974	1978	Change	1974	1978	Change
Total	3,012	3,134	122	1,871	1,941	70	1,141	1,193	52
Public	1,441	1,474	33	544	550	6	897	924	27
Federal	9	11	2	7	8	1	2	3	1
State	864	856	−8	510	514	4	354	342	−12
Local	328	203	−125	17	4	−13	311	199	−112
State and local	232	374	142	5	14	9	227	360	133
State related	8	30	22	5	10	5	3	20	17
Private	1,571	1,660	89	1,327	1,391	64	224	269	25
Independent nonprofit	733	788	55	630	684	54	103	104	1
Organized as profit-making	52	96	44	12	15	3	40	81	41
Religious group	786	776	−10	685	692	7	101	84	−17
Protestant	500	503	3	428	445	17	72	58	−14
Roman Catholic	250	235	−15	223	211	−12	27	24	−3
Jewish	24	24	0	24	24	0	0	0	0
Other	12	14	2	10	12	2	2	2	0

Sex of student body	All institutions			4-year institutions			2-year institutions		
	1974	1978	Change	1974	1978	Change	1974	1978	Change
Total	3,012	3,134	122	1,871	1,941	70	1,141	1,193	52
Public	1,441	1,474	33	544	550	6	897	924	27
Coeducational	1,432	1,472	40	536	548	12	896	924	28
Men only	7	1	−6	6	1	−5	1	0	−1
Women only	2	1	−1	2	1	−1	0	0	0
Coordinate	0	0	0	0	0	0	0	0	0
Private	1,571	1,660	89	1,327	1,391	64	244	269	25
Coeducational	1,306	1,423	117	1,108	1,186	78	198	237	39
Men only	118	110	−8	110	103	−7	8	7	−1
Women only	135	116	−19	97	92	−5	38	24	−14
Coordinate	12	11	−1	12	10	−2	0	1	1

SOURCE: Department of Health, Education, and Welfare, National Center for Education Statistics, *Education Directory, Higher Education 1974–75*, 1975; *Education Directory, Colleges and Universities 1978–1979*, 1979.

Chart 3.7
Number of Higher Education Institutions and Branches by Control

Between 1974 and 1978, the decrease in the number of institutions controlled by either State or local governments was more than offset by the increase in those controlled jointly by State and local governments.

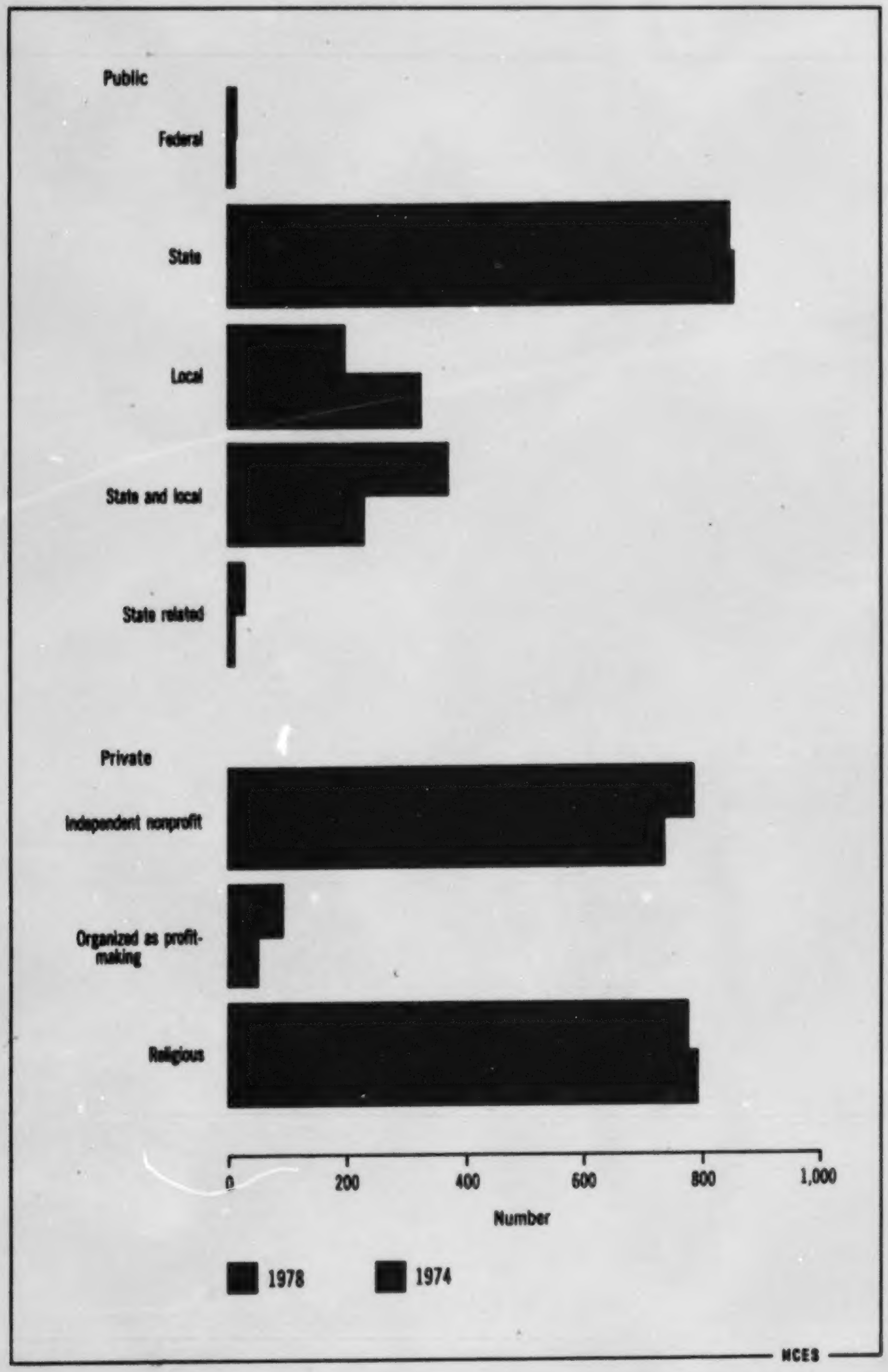


Table 3.8

Number of institutions of higher education that have closed their doors, by control and type of institution: 1960–61 to 1977–78

	All institutions			Public institutions			Private institutions		
Academic year	Total	4-year	2-year	Total	4-year	2-year	Total	4-year	2-year
Total 1960–61 to 1968–69	77	25	52	14	0	14	63	25	38
1960–61	8	1	7	1	0	1	7	1	6
1961–62	2	1	1	0	0	0	2	1	1
1962–63	0	0	0	0	0	0	0	0	0
1963–64	7	1	6	1	0	1	6	1	5
1964–65	8	1	7	4	0	4	4	1	3
1965–66	8	2	6	4	0	4	4	2	2
1966–67	9	2	7	3	0	3	6	2	4
1967–68	14	6	8	0	0	0	14	6	8
1968–69	21	11	10	1	0	1	20	11	9
Total 1969–70 to 1977–78	144	76	68	22	1	21	122	75	47
1969–70	18	8	10	3	0	3	15	8	7
1970–71	32	9	23	9	0	9	23	9	14
1971–72	12	3	9	3	0	3	9	3	6
1972–73	19	12	7	2	0	2	17	12	5
1973–74	18	11	7	0	0	0	18	11	7
1974–75	17	13	4	3	0	3	14	13	1
1975–76	8	6	2	2	1	1	6	5	1
1976–77	8	5	3	0	0	0	8	5	3
1977–78	12	9	3	0	0	0	12	9	3

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Digest of Education Statistics, 1980.*

Chart 3.8
Number of Institutions of Higher Education That Have Closed Their Doors

In the 1970's, nearly twice as many institutions of higher education closed than in the previous decade. While most of the closings in the 1960's were private 2-year institutions, most of the 1970's closings were private 4-year institutions.

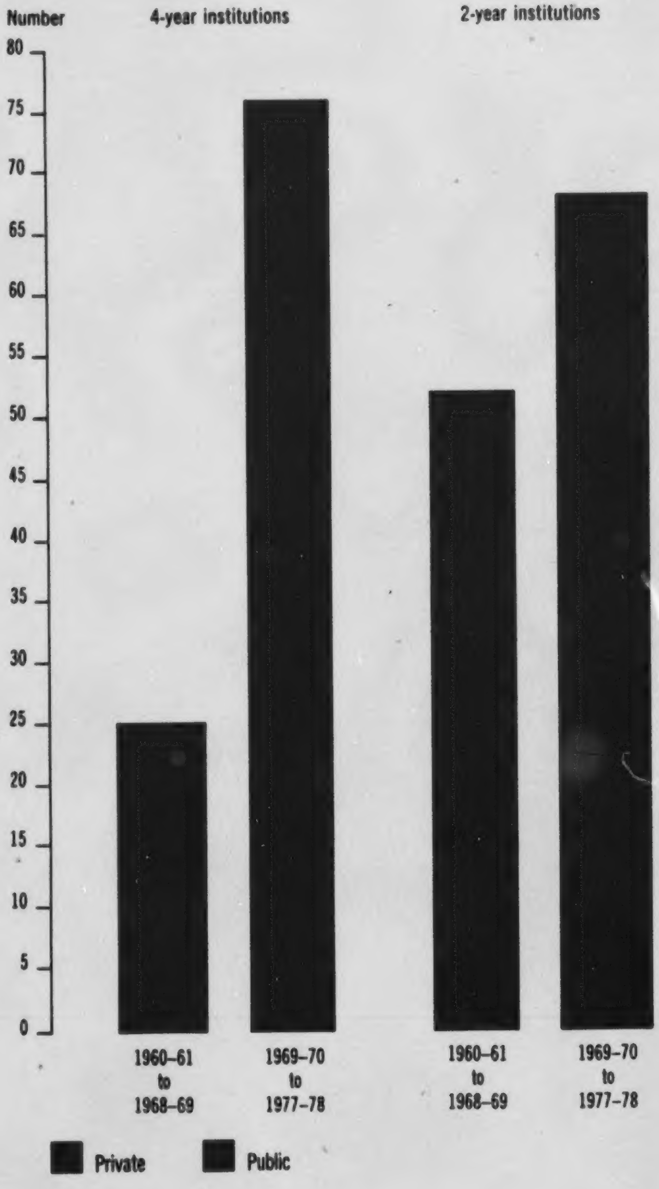


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Table 3.9

Living arrangements of college students 14 to 34 years old, by marital status: 1958, 1966, 1971, and 1976

Item	1958	1966	1971	1976
	Percentage distribution[1]			
All students	100.0	100.0	100.0	100.0
Maintaining own household	26.3	24.4	30.8	33.3
In household of parents or other relative	34.4	34.0	33.7	32.4
In college housing	29.5	29.4	23.3	21.4
Other[2]	9.8	12.2	12.2	12.9
Married, spouse present	100.0	100.0	100.0	100.0
Maintaining own household	91.3	94.5	94.4	94.9
Other[2]	7.9	5.7	5.7	5.1
Other marital status, 14 to 21 years old	100.0	100.0	100.0	100.0
Maintaining own household	1.8	1.8	3.8	5.2
In household of parents or other relative	40.5	44.5	46.6	44.6
In college housing	45.3	41.1	36.8	36.4
Other[2]	12.4	12.8	12.9	13.8
Other marital status, 22 to 34 years old	100.0	100.0	100.0	100.0
Maintaining own household	18.5	25.8	29.7	37.8
In household of parents or other relative	52.8	30.6	34.8	32.4
In college housing	15.9	17.5	10.3	6.9
Other[2]	12.9	26.1	25.2	22.9

[1] Based on reported cases. Cases of unreported housing represent 3.1 percent of enrollment in 1976, 4.4 percent in 1971, 2.3 percent in 1966, and 0 percent in 1958.

[2] Includes living in households of non-relatives.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Living Arrangements of College Students: October 1976*, Series P-20, No. 348, 1979.

Chart 3.9
Living Arrangements of Unmarried College Students 14 to 34 Years Old

Students were less likely to live in college housing in 1976 than in 1958. Unmarried students maintaining their own households increased during the same period.

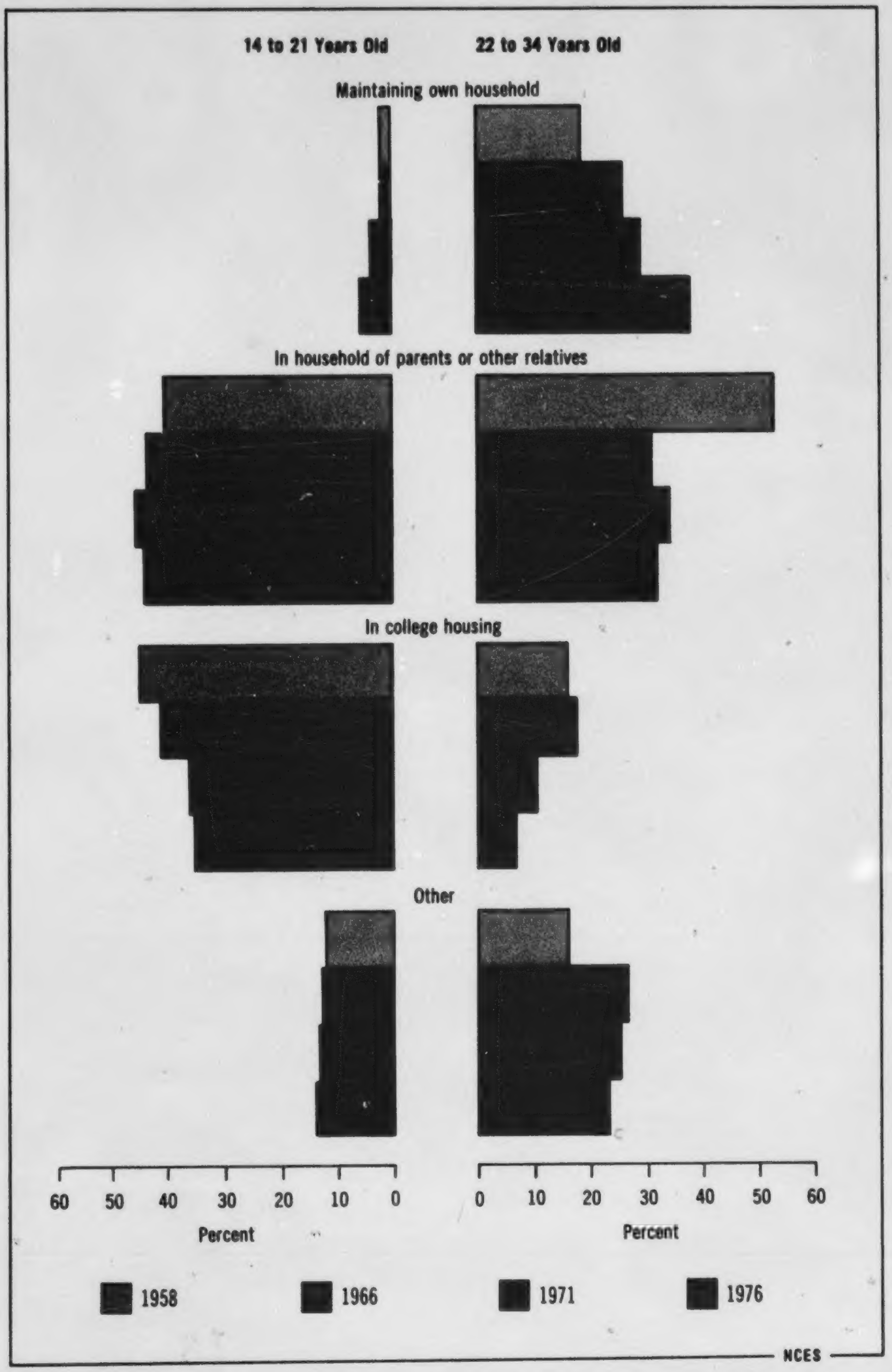

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Table 3.10
Instructional staff in all institutions of higher education, by professional rank and employment status: Fall 1970 to fall 1988

Year	Total	Instructor or above			Junior instructor			Estimated total full-time equivalent[1]
		Total	Full-time	Part-time	Total	Full-time	Part-time	
	(In thousands)							
1970	**573**	474	369	104	101	14	87	**451**
1971[2]	**590**	492	379	113	97	10	88	**458**
1972	**590**	500	380	120	90	6	84	**455**
1973[2]	**634**	527	389	138	107	13	94	**481**
1974[2]	**695**	567	406	161	128	17	111	**516**
1975[2]	**781**	628	440	188	153	22	131	**574**
1976	**793**	633	434	199	160	28	132	**584**
1977[2]	**812**	650	447	203	162	29	134	**599**
1978[2]	**809**	647	445	202	162	29	134	**597**
	Projection							
1979	**822**	659	451	207	163	29	134	**605**
1980	**826**	663	453	209	163	29	134	**608**
1981	**828**	665	454	211	163	29	134	**609**
1982	**824**	662	452	210	162	29	133	**606**
1983	**816**	656	447	209	160	28	132	**600**
1984	**803**	646	440	206	157	28	129	**590**
1985	**789**	635	432	203	154	27	127	**580**
1986	**775**	624	424	200	151	27	124	**569**
1987	**765**	616	419	198	148	26	122	**561**
1988	**759**	612	416	197	147	26	121	**557**

[1] Estimated by calculating one-third of the number of part-time staff and adding to the number of full-time staff.
[2] Estimated.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1988–89*, 1980.

Chart 3.10
Instructional Staff in Institutions of Higher Education

The increases that occurred in the number of part-time instructional staff in institutions of higher education proportional to full-time staff between 1970 and 1978, had the effect of widening the gap between total and full-time-equivalent staff.

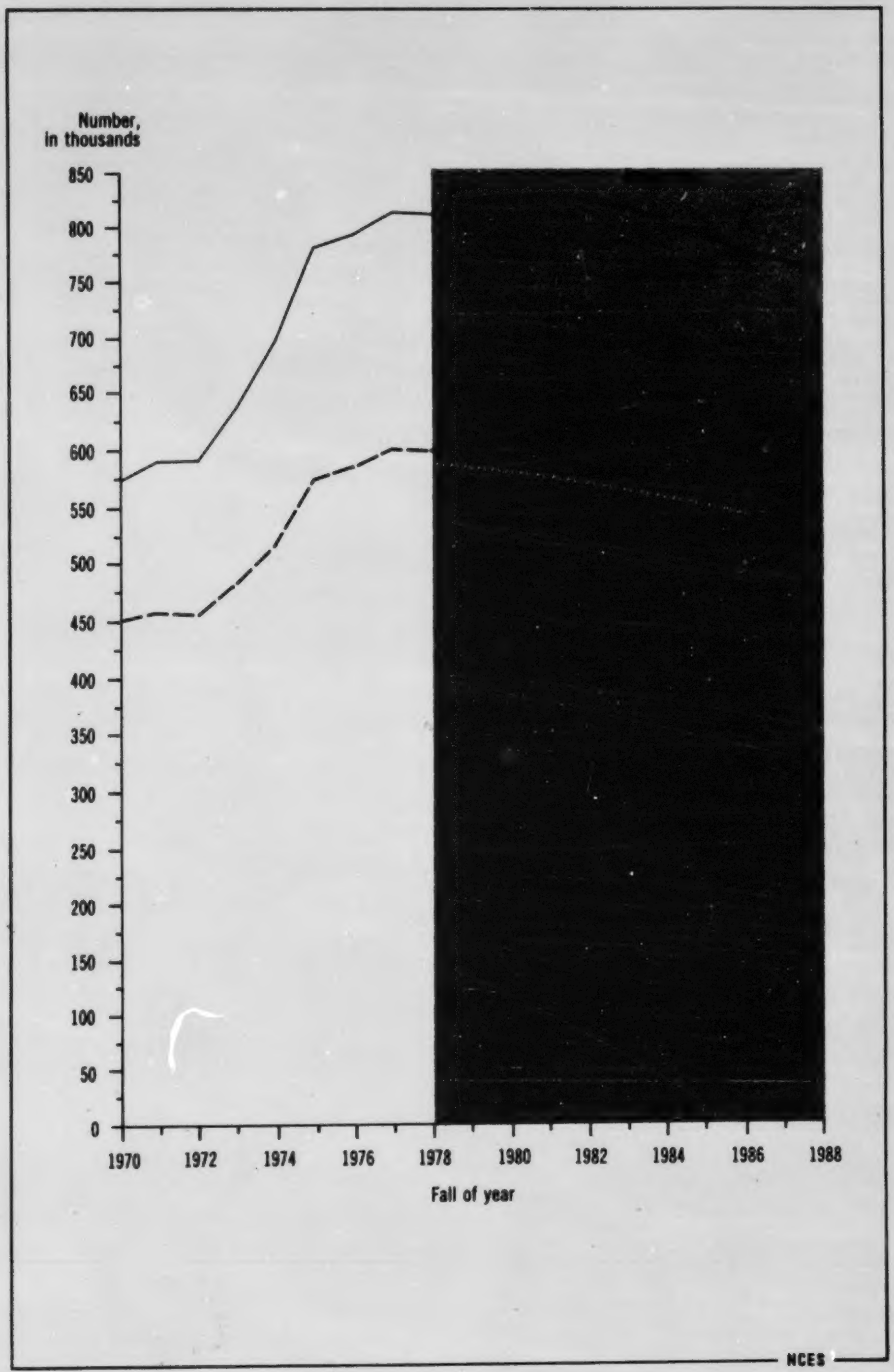

Table 3.11
Number of full-time instructional faculty[1], number tenured, and percent tenured in institutions of higher education, by sex of faculty member: Academic year ending 1979

Type and control of institution	Total faculty			Tenured faculty		
		Percent			Percent	
	Number	Male	Female	Number	Male	Female
Public and private:						
All institutions	390,424	74.3	25.7	218,838	81.1	18.9
Universities	123,142	81.8	18.2	74,140	88.9	11.1
Other 4-year institutions	179,779	74.0	26.0	99,977	80.6	19.4
2-year institutions	87,503	64.5	35.5	44,721	69.2	30.8
Public:						
All institutions	285,280	74.1	25.9	169,608	80.3	19.7
Universities	90,233	82.0	18.0	56,441	88.9	11.1
Other 4-year institutions	112,029	74.4	25.6	69,298	80.4	19.6
2-year institutions	83,101	65.1	34.9	43,869	69.7	30.7
Private:						
All institutions	105,061	75.0	25.0	49,230	83.8	16.2
Universities	32,909	81.2	18.8	17,699	89.0	11.0
Other 4-year institutions	67,750	73.4	26.6	30,679	81.3	18.7
2-year institutions	4,402	54.2	45.8	852	66.1	33.9

[1] Excludes students who assist in instruction, faculty in religious orders if their salaries are not determined and paid by the same common principles as those which apply to lay faculty, faculty for clinical medicine, administrative officers even though they may devote part of their time to classroom instruction, faculty in the ROTC program if their salaries are determined on a different basis than civilian faculty, and faculty on contracts other than 9–10 or 11–12 month duration.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 3.11
Distribution of Total and Tenured Instructional Faculty in Higher Education

Although females represented approximately one-quarter of full-time instructional faculty in both public and private institutions of higher education, their representation among tenured faculty was fewer than 1 in 5.

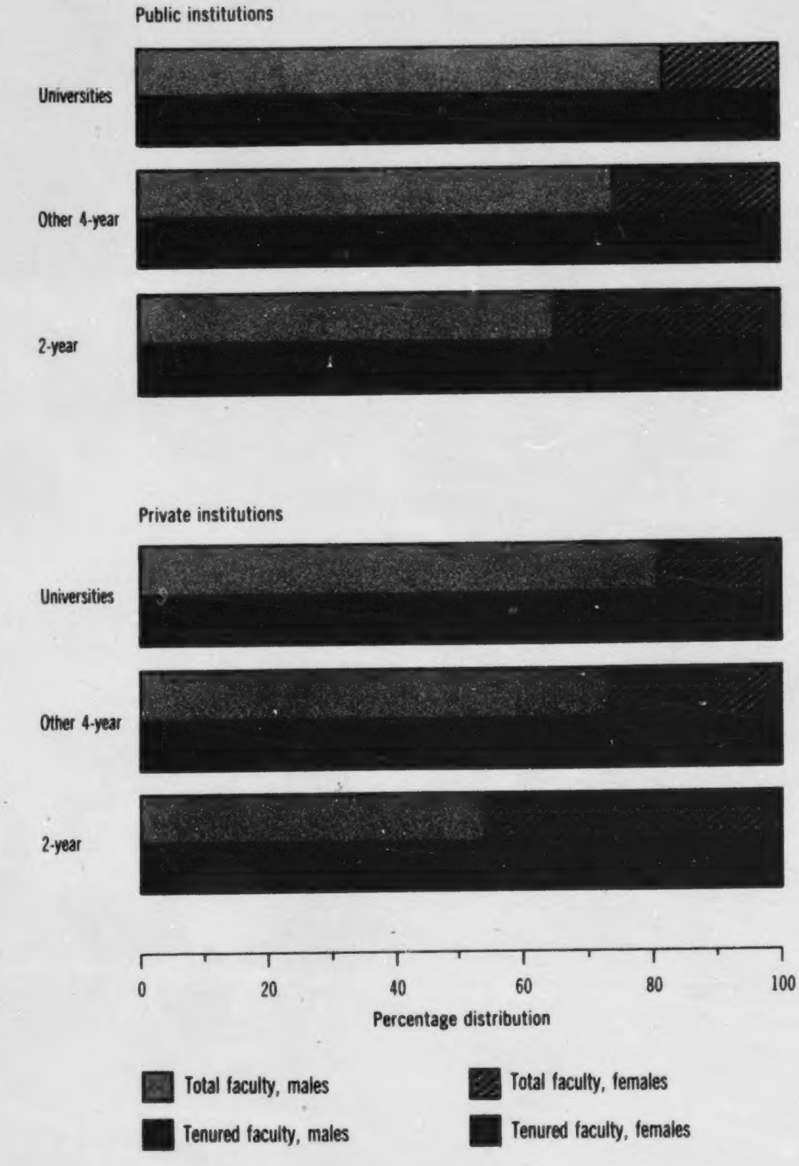

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Table 3.12
Levels and indexes of faculty salaries in current and constant (1967–68) prices and the Consumer Price Index: 1967–68 to 1978–79

Year	Salaries in current prices		Salaries in 1967–68 prices		Consumer Price Index
	Average salary	Index	Average salary	Index	
1967–68	$11,033	**100.0**	$11,033	**100.0**	**100.0**
1968–69	11,760	**106.6**	11,221	**101.6**	**104.8**
1969–70	12,637	**114.5**	11,293	**102.4**	**111.1**
1970–71	13,284	**120.4**	11,373	**103.1**	**116.8**
1971–72	13,823	**125.3**	11,424	**103.5**	**121.0**
1972–73	14,552	**131.9**	11,568	**104.8**	**125.8**
1973–74	15,459	**140.1**	11,276	**102.2**	**137.1**
1974–75	16,403	**148.7**	10,770	**97.6**	**152.3**
1975–76	17,450	**158.2**	10,699	**97.0**	**163.1**
1976–77	17,930	**162.5**	10,394	**94.2**	**172.5**
1977–78	18,897	**171.3**	10,265	**93.0**	**184.1**
1978–79	20,120	**182.4**	9,990	**90.5**	**201.4**

SOURCE: American Association of University Professors, *Academe: Bulletin of the AAUP*, "An Era of Continuing Decline: Annual Report on the Economic Status of the Profession, 1978–79", September 1979.

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Chart 3.12
Faculty Salary Indexes and the Consumer Price Index

Until 1973–74, faculty salaries kept pace with inflation, but then began to decline. In terms of 1967–68 prices, average salaries in 1978–79 were almost 10 percent less than in 1967–68.

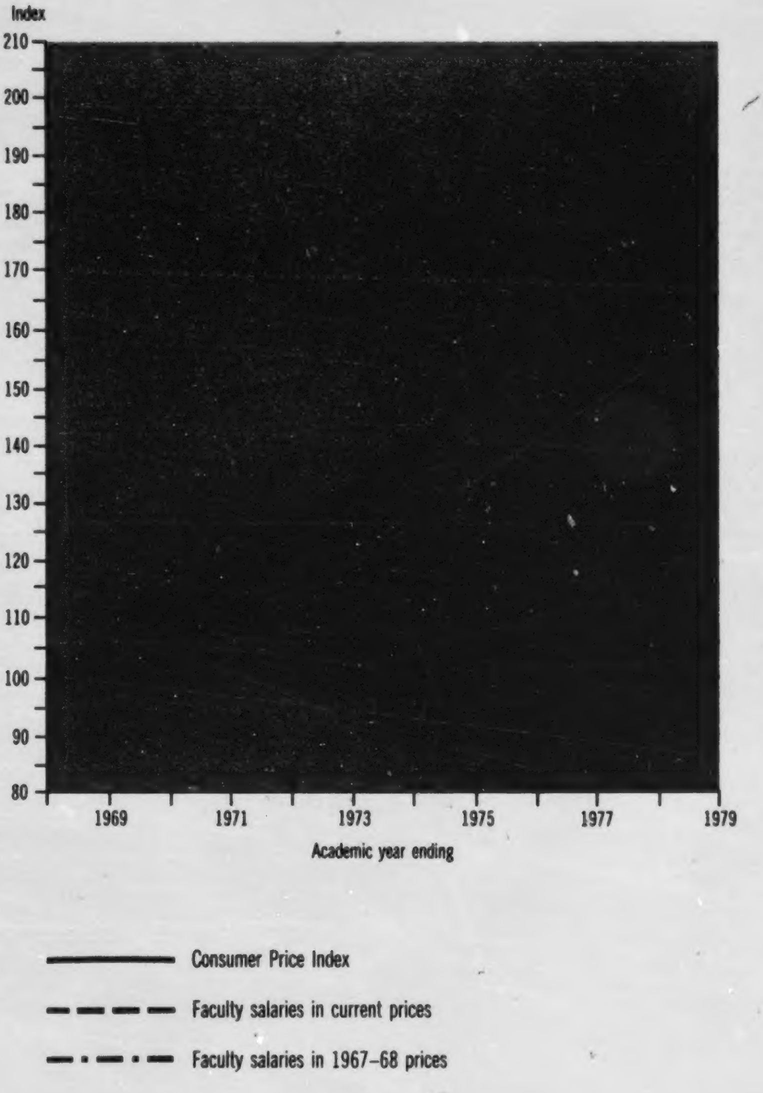

Table 3.13
Selected data on college and university libraries: Aggregate United States, Fall 1975, 1976, and 1977

Item	1975	1976	1977
Number of libraries	2,980	2,987	3,058
Public	1,437	1,447	1,461
Private	1,543	1,540	1,597
Total operating expenditures (in millions)	$1,091.8	$1,180.1	$1,259.6
Percentage distribution:			
Total	100.0	100.0	100.0
Salaries, wages, fringe benefits	59.9	60.6	60.9
Books and other library materials	30.0	30.3	29.7
Binding and rebinding	2.0	1.9	1.8
All other expenditures	8.0	7.2	7.7
Number of full-time equivalent (FTE) library staff	56,836	56,852	57,087
Administrators and librarians	20,353	19,976	20,576
Other professionals	3,177	3,128	2,732
Non-professionals	33,306	33,748	33,779
Ratios of library and institutional variables:			
Library expenditures as a percent of education and general expenditures	3.9	3.8	3.8
Library expenditures per FTE student	$138.44	$137.70	$149.83
FTE library staff per 1,000 FTE students	7.3	6.6	6.8

	Number and average salaries of full-time staff: 1977			
	Number		Salaries	
Staff level	Men	Women	Men	Women
Administrators	2,783	2,808	$21,198	$18,133
Librarians	4,800	10,285	16,340	14,512
Other professionals	1,140	1,582	14,884	10,715
Non-professionals	5,732	28,047	9,141	8,137

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Library Statistics of Colleges and Universities, 1977 Institutional Data*, 1980.

Chart 3.13
Number and Average Salary of Library Staff in Colleges and Universities

While female staff of college and university libraries outnumbered males by nearly 3 to 1, their salaries were lower at every position.

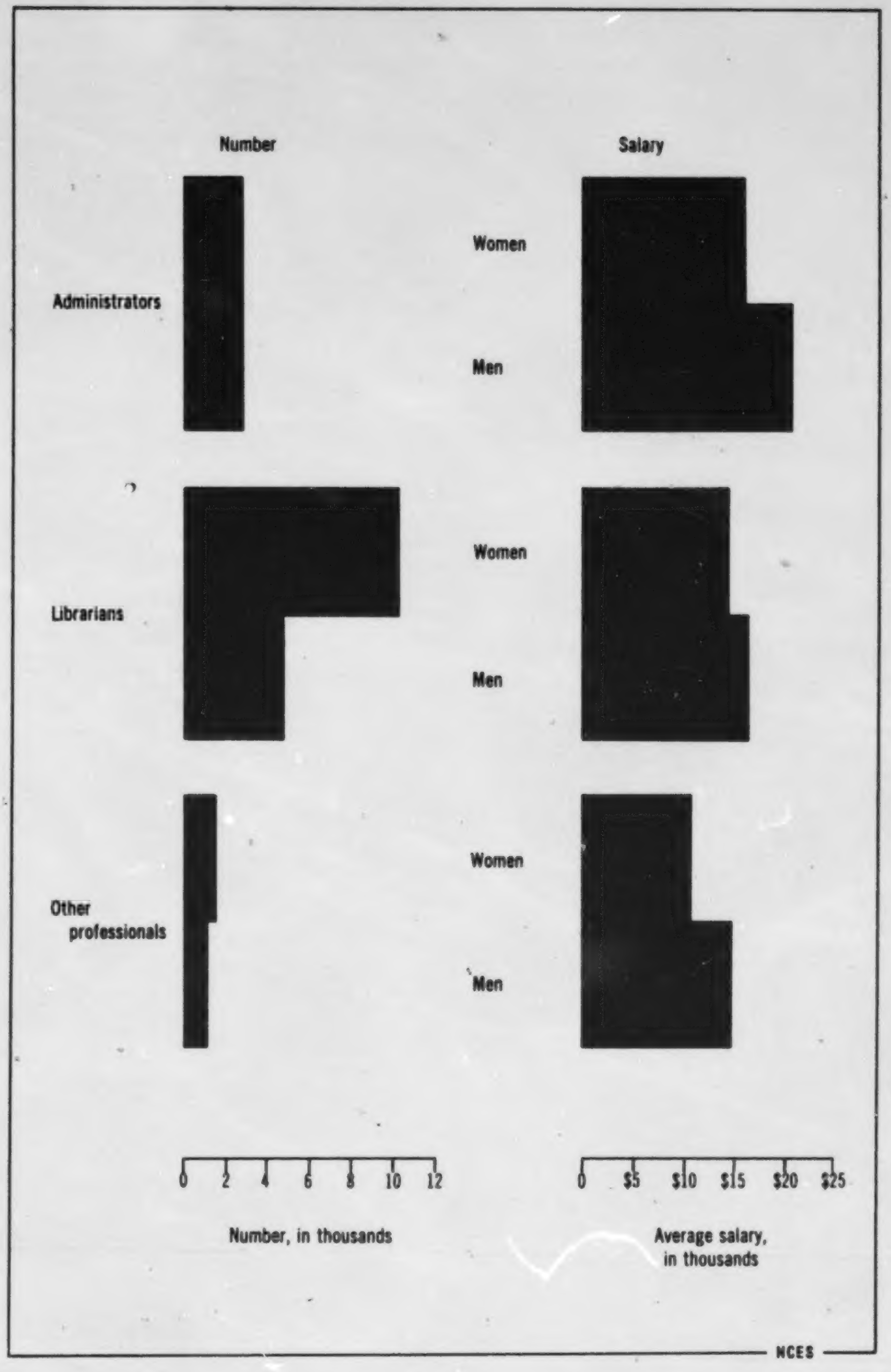

Table 3.14

Number of earned degrees conferred by institutions of higher education and percent earned by females, by degree level, with projections: Academic year ending 1970 to 1989

Academic year ending	Bachelor's degrees		First-professional degrees		Master's degrees		Doctor's degrees	
	Number	Percent female	Number	Percent female	Number	Percent female	Number	Percent female
1970	792,656	43.1	34,578	5.2	208,291	39.7	29,866	13.3
1971	839,730	43.4	37,946	6.3	230,509	40.1	32,107	14.3
1972	887,273	43.6	43,411	6.2	251,633	40.6	33,363	15.8
1973	922,362	43.8	50,018	7.1	263,371	41.3	34,777	17.8
1974	945,776	44.2	53,816	9.8	277,033	43.0	33,816	19.1
1975	922,933	45.3	55,916	12.4	292,450	44.8	34,083	21.3
1976	925,746	45.5	62,649	15.6	311,771	46.4	34,064	22.9
1977	919,549	46.1	64,359	17.3	317,164	47.1	33,232	24.3
1978	921,204	47.1	66,581	21.5	311,620	48.3	32,131	26.4
				Projected				
1979	933,400	47.0	67,830	22.5	314,250	49.5	32,000	26.9
1980	948,000	47.3	68,450	23.2	315,090	50.8	32,750	27.9
1981	951,900	47.2	69,500	23.8	315,850	51.7	32,980	28.1
1982	965,100	47.8	70,860	24.5	315,930	51.3	32,650	28.2
1983	956,200	47.5	71,710	25.3	316,300	51.2	31,700	28.4
1984	941,900	47.3	72,300	26.0	313,240	51.2	31,020	28.5
1985	921,300	47.0	72,880	26.8	313,240	51.2	30,410	28.6
1986	910,800	47.9	73,340	27.2	311,940	51.4	29,830	28.7
1987	896,900	47.8	73,780	27.6	310,470	51.4	29,240	28.8
1988	890,000	48.6	74,200	28.0	301,040	50.7	28,630	28.9
1989	881,000	48.6	74,570	28.4	295,410	50.5	27,950	28.9

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1988–89*, 1980.

Chart 3.14
Earned Degrees Conferred by Institutions of Higher Education

The number of bachelor's and doctor's degrees conferred showed decreases during the 1970's, while master's degrees decreased for the first time in 1978. First-professional degrees continued to increase in large part because of the growth in degrees awarded to women.

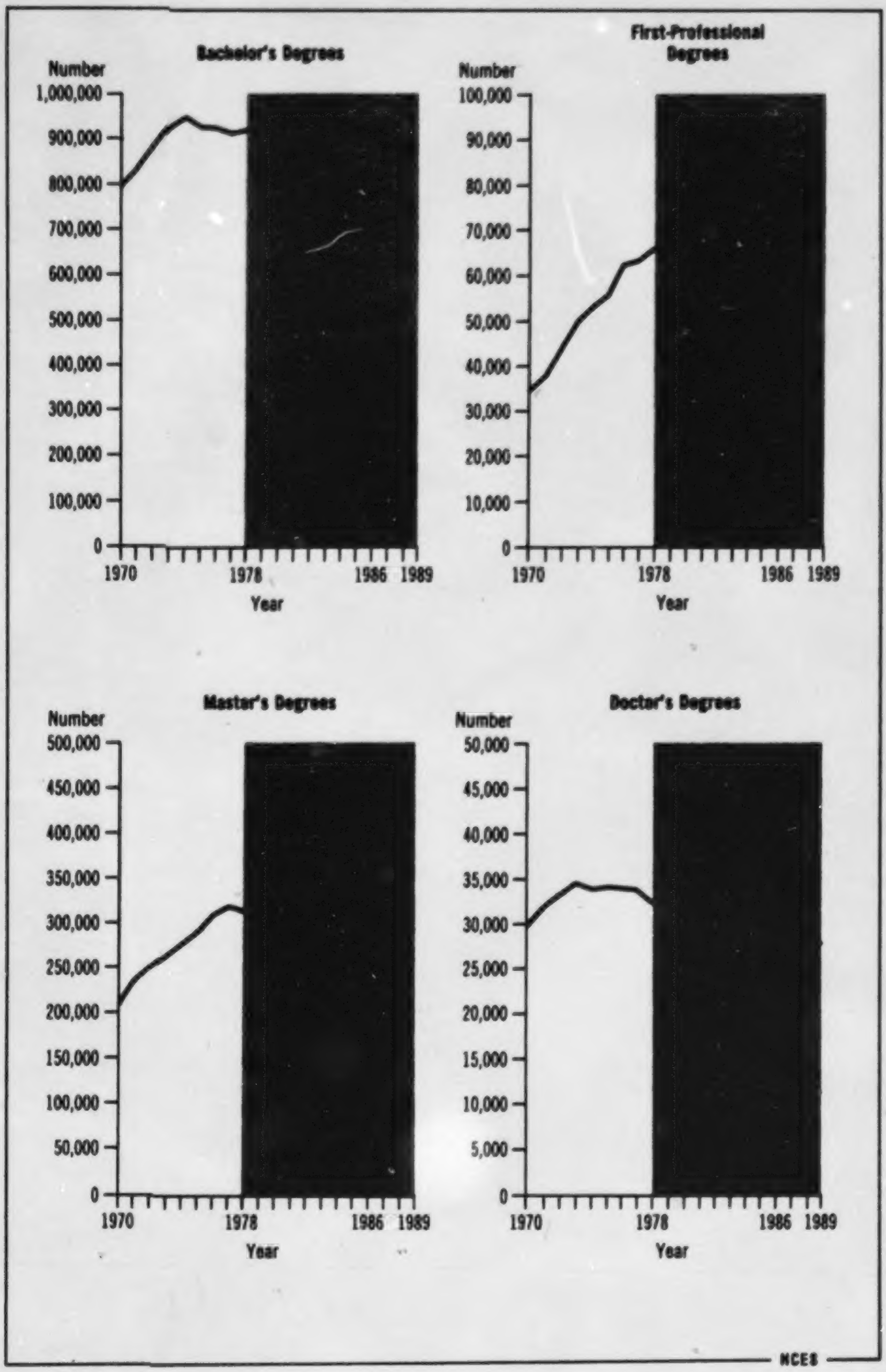

Table 3.15
Distribution of bachelor's degrees, by field of study, with projections: Selected years, 1970 to 1988

	1970	1974	1978	Projected 1980	1984	1988
			Percentage distribution			
Total	100.0	100.0	100.0	100.0	100.0	100.0
All social sciences	**24.0**	**24.4**	**21.6**	**20.4**	**18.8**	**17.8**
Social sciences	19.1	16.3	12.6	11.4	9.7	8.8
Psychology	4.2	5.5	4.8	4.8	4.4	3.9
Public affairs and services	.6	2.5	4.0	4.2	4.7	5.1
Library sciences	.1	.1	.1	.1	.1	.1
All humanities	**17.0**	**15.7**	**14.4**	**13.6**	**13.0**	**13.3**
Architecture and environmental design	.5	.8	1.0	1.0	1.0	1.0
Fine and applied arts	4.5	4.2	4.4	4.3	4.3	4.2
Foreign languages	2.6	2.0	1.4	1.1	.8	.9
Communications	.8	1.8	2.8	3.0	3.5	3.9
Letters	8.6	6.9	4.8	4.1	3.4	3.3
All physical sciences	**12.8**	**10.4**	**10.7**	**12.1**	**13.6**	**13.4**
Mathematics and statistics	3.5	2.3	1.4	1.0	.8	.9
Computer and information sciences	.2	.5	.8	.8	1.0	1.1
Engineering	5.6	4.5	5.1	6.8	7.8	7.3
Engineering technologies	.7	.8	1.0	1.0	1.2	1.3
Physical sciences	2.7	2.2	2.5	2.5	2.8	2.8
All health and life sciences	**9.0**	**11.2**	**14.5**	**15.0**	**16.3**	**17.4**
Biological sciences	4.7	5.1	5.6	5.8	6.1	6.1
Agriculture and natural resources	1.6	1.7	2.5	2.6	2.9	3.1
Health professions	2.8	4.4	6.4	6.6	7.4	8.1
All other fields	37.3	38.3	38.9	38.9	38.3	38.1
Accounting	2.7	3.1	4.4	4.9	5.2	4.9
Business and management	10.7	10.9	13.2	13.5	14.8	16.4
Education	20.4	19.6	14.8	13.6	10.7	8.7
Other[1]	3.5	4.8	6.6	6.9	7.6	8.1

[1] Includes home economics, law, military science, theology, and interdisciplinary studies.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1989–90*, 1980, and unpublished tabulations.

Chart 3.15
Percent of Bachelor's Degrees Earned by Area of Study

The distribution of bachelor's degrees by area of study shifted away from social sciences, humanities, and education between 1970 and 1978. Increases during that period in the proportions of degrees earned in health and life sciences and business and management are expected to continue.

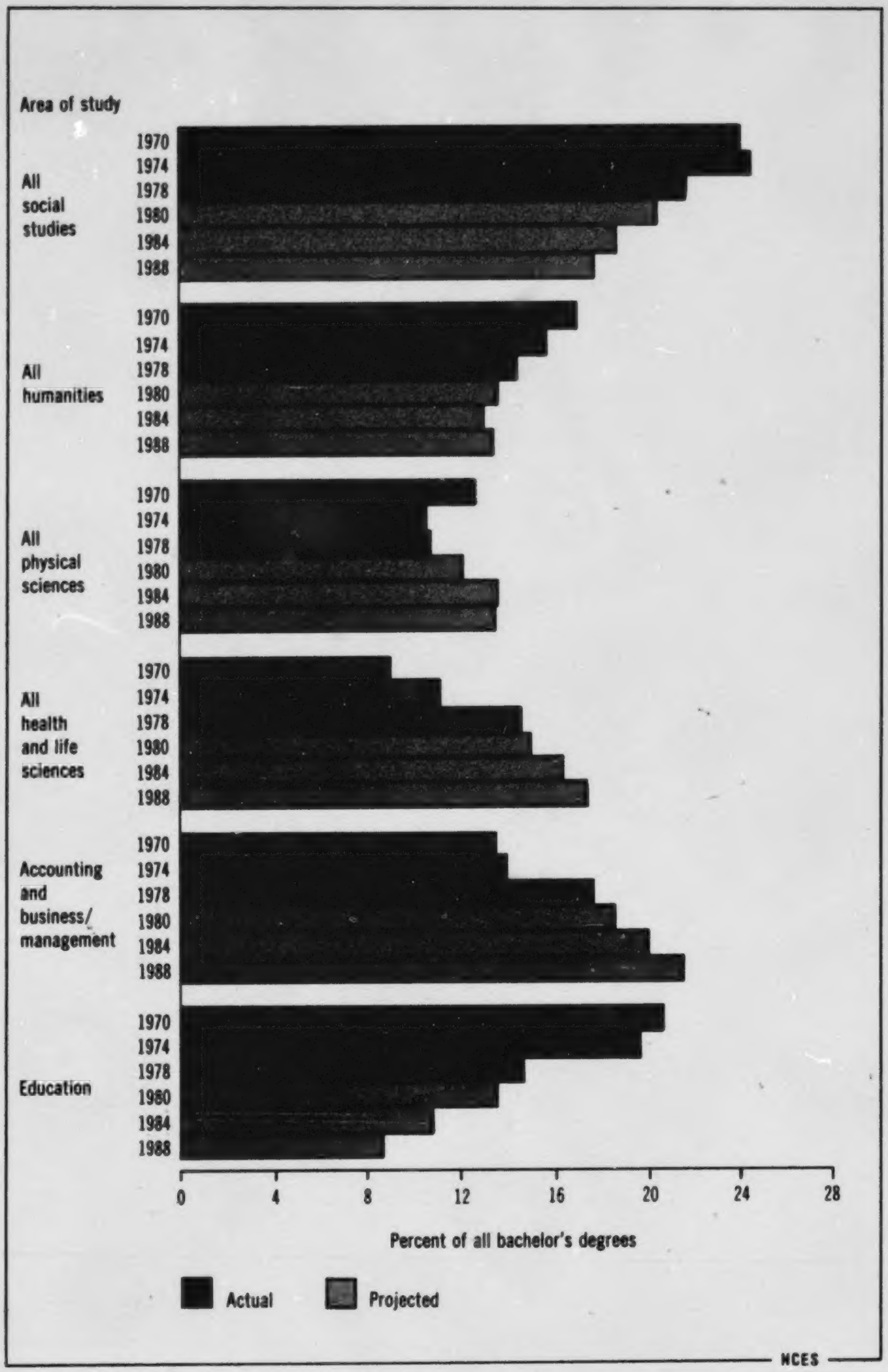

Table 3.16
Scholastic Aptitude Test (SAT) scores and intended areas of study of college-bound seniors: 1979

Intended area of study	Total	Male	Female	SAT verbal mean	SAT math mean
	(Percent indicating intended area)				
Arts and humanities	12.7	10.1	15.0	436	452
Architecture/environmental design	1.8	3.1	0.8	418	495
Art	4.4	2.3	6.2	404	421
English/literature	1.6	1.0	2.2	505	478
Foreign languages	1.0	0.3	1.5	475	476
Music	2.0	2.0	2.0	437	456
Philosophy and religion	0.4	0.6	0.3	465	482
Theater arts	1.5	0.9	2.0	437	433
Biological sciences and related areas	22.1	17.7	26.0	435	472
Agriculture	1.7	2.4	1.2	408	443
Biological sciences	3.7	3.9	3.6	472	507
Forestry/conservation	1.1	1.8	0.6	420	456
Health and medical	15.5	9.7	20.7	430	469
Business, commerce, and communications	21.2	21.6	20.9	408	448
Business and commerce	17.8	18.2	17.3	400	447
Communications	3.5	3.4	3.5	448	449
Physical sciences and related areas	16.9	27.8	7.2	448	535
Computer science/systems analysis	3.3	4.0	2.7	419	498
Engineering	10.1	18.9	2.3	445	536
Mathematics	1.2	1.4	1.1	459	500
Physical sciences	2.2	3.5	1.1	498	561
Social sciences and related areas	20.3	15.4	24.6	429	440
Education	6.5	3.1	9.5	392	420
Ethnic studies	0.0	0.0	0.0	372	386
Geography	0.0	0.1	0.0	438	481
History and cultures	0.7	0.8	0.5	478	471
Home economics	0.7	0.1	1.2	389	417
Library science	0.1	0.0	0.1	476	448
Military science	0.7	1.4	0.1	434	481
Psychology	3.4	1.5	5.2	435	447
Social sciences	8.2	8.3	8.0	455	472
Miscellaneous	6.8	7.3	6.4	420	458
Other	1.1	1.2	1.0	396	430
Trade and vocational	1.1	1.3	1.0	353	394
Undecided	4.6	4.9	4.4	441	480
Number responding	912,896	430,446	482,450		

SOURCE: Admissions Testing Program of the College Board, *National Report, College-Bound Seniors*, 1979.

Chart 3.16
SAT Scores by Intended Area of Study

Highest mean SAT scores on both verbal and mathematical tests in 1979 were attained by college-bound seniors who reported their intentions to study physical sciences and related areas.

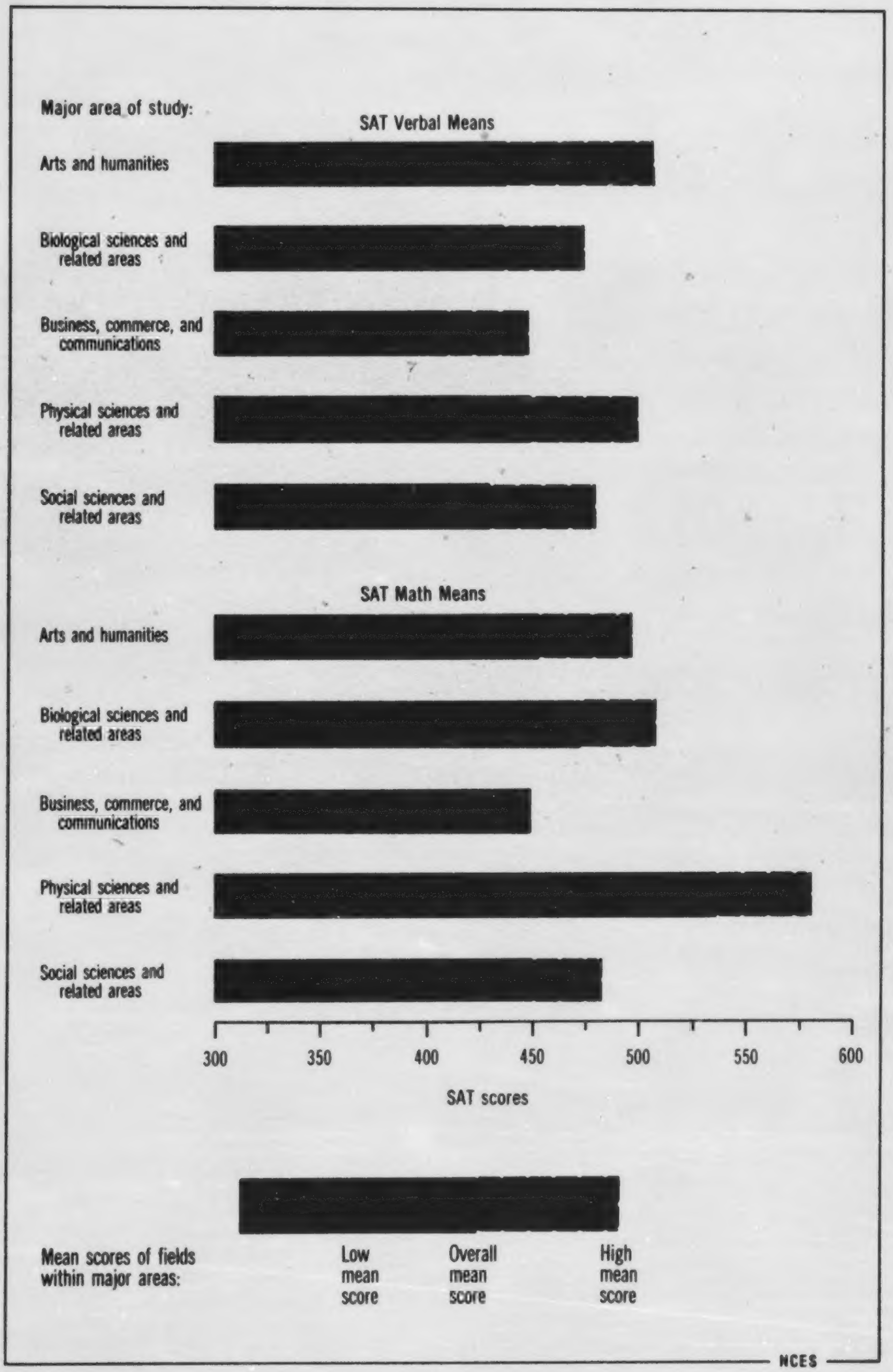

Table 3.17
Indicators of employment status for 1976–77 bachelor's degree recipients in February, 1978

Major field	Total bachelor's recipients	Labor force participation rate	Unemployment rate[1]	Percent of bachelor's recipients: Employed full-time	Percent of bachelor's recipients: Employed full-time in closely related field	Percent of bachelor's recipients: Employed full-time who are underemployed[2]
All bachelor's recipients	927,200	87	5.9	68	35	16
Professions	416,000	94	3.9	79	52	10
Arts and sciences	419,800	81	7.9	57	19	20
Other	91,400	89	7.0	67	31	20
Newly qualified to teach	177,100	93	4.7	72	48	11
Professions	124,900	94	3.9	75	55	10
Arts and sciences	45,600	90	7.7	63	32	11
Other	6,600	91	.0	66	40	18
Not newly qualified to teach	750,100	86	6.1	67	32	17
Professions	291,100	94	3.8	81	52	11
Engineering	52,700	92	5.2	81	55	5
Business and management	158,600	94	3.2	83	45	15
Health	56,600	94	3.4	80	74	1
Education[3]	23,200	92	6.3	71	41	16
Arts and sciences	374,200	80	7.9	58	17	21
Biological sciences	64,100	67	11.4	44	17	12
Physical sciences	31,800	80	1.9	56	20	13
Psychology	53,800	80	5.7	55	16	20
Social sciences	141,400	81	7.8	60	18	25
Humanities	83,200	87	9.5	60	17	23
Other	84,800	89	7.5	67	31	21
Communication	27,700	98	10.0	75	33	21
Other	57,100	85	6.2	63	30	20

[1] Unemployed persons are those who, during the survey week, had no employment and had engaged in job seeking activities within the past 4 weeks.

[2] Underemployed graduates are those not working in technical, managerial, or administrative type of jobs and who reported that, in their opinion, their jobs did not require a college degree.

[3] Includes those who have not finished all requirements for teaching certification or were previously qualified to teach.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Recent College Graduate Survey*, 1978, preliminary tabulations.

Chart 3.17
1976–77 Bachelor's Degree Recipients Employed Full Time in February 1978

Bachelor's recipients of 1976–77 with degrees in the professions were more likely to be employed full time and in a field closely related to their college major in 1978 than were those with arts and sciences degrees or other degrees.

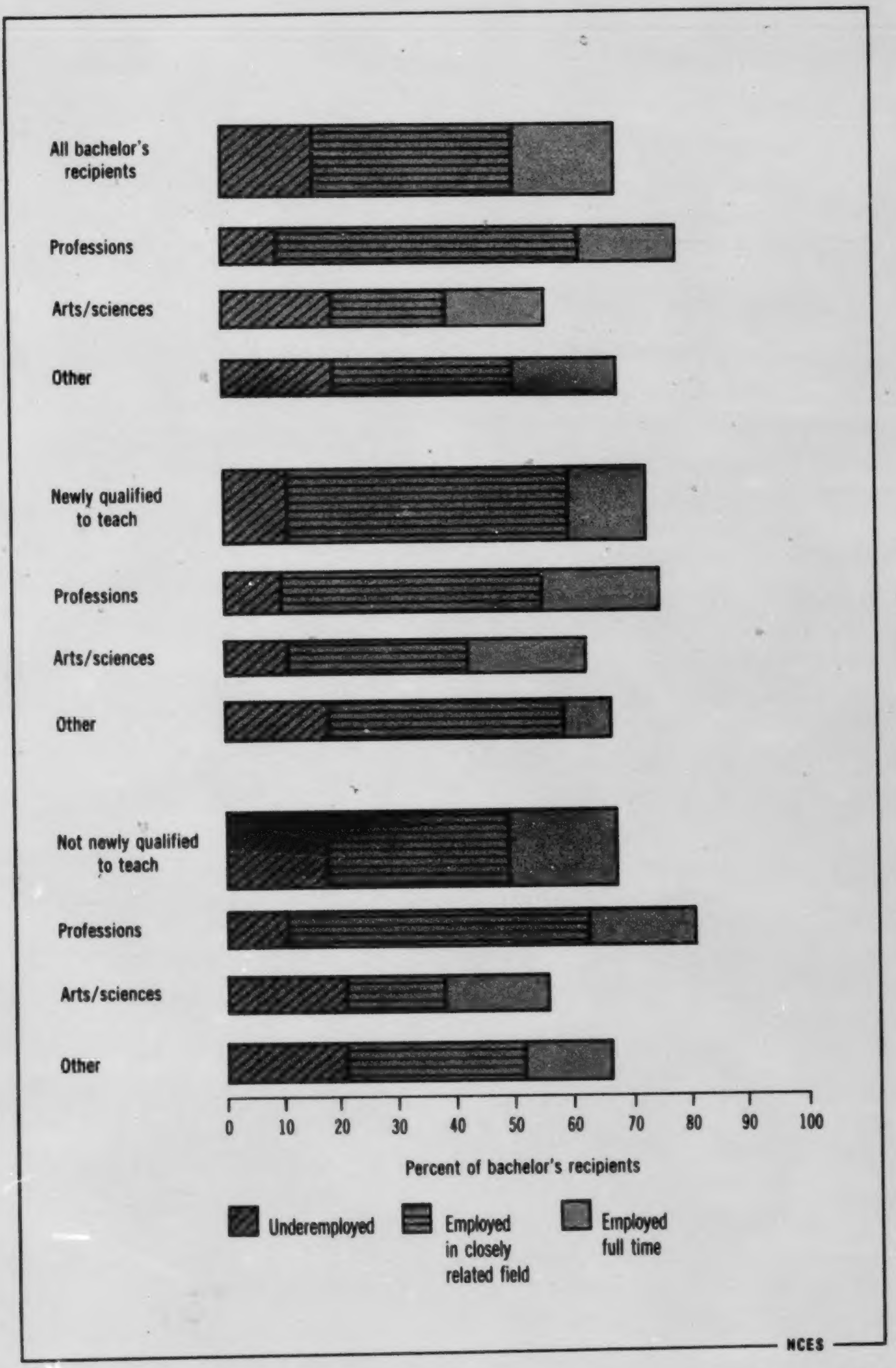

Table 3.18
Occupations of employed college graduates, by sex and race: March 1968 and March 1978

Sex and occupation	All persons		White		Black and other	
	1968	1978	1968	1978	1968	1978
Men						
Number employed (in thousands)	6,353	10,611	6,077	9,944	278	667
			Percentage distribution			
Total	100.0	100.0	100.0	100.0	100.0	100.0
White-collar (non-farm) workers	**94.5**	**90.2**	**94.6**	**90.8**	**92.4**	**82.3**
Professional and managerial	**83.3**	**76.6**	**83.5**	77.1	**80.6**	**69.9**
Sales and clerical	11.2	13.6	11.1	13.7	11.9	12.4
Blue-collar and farm workers	5.5	9.9	5.5	9.2	7.6	17.4
Craftsmen, operatives, and laborers	3.5	6.6	3.6	6.0	4.0	13.1
Service and farm	2.0	3.3	1.9	3.2	3.6	4.3
Women						
Number employed (in thousands)	2,876	5,675	2,597	5,056	280	620
			Percentage distribution			
Total	100.0	100.0	100.0	100.0	100.0	100.0
White-collar (non-farm) workers	**97.3**	**93.7**	**97.2**	**94.0**	**95.0**	**91.9**
Professional and managerial	**85.5**	**73.7**	**85.5**	**74.0**	**82.1**	**71.6**
Sales and clerical	**11.8**	**20.0**	**11.6**	**20.0**	**12.9**	**20.3**
Blue-collar and farm workers	**3.0**	**6.2**	**2.8**	**6.0**	**5.0**	**7.9**
Craftsmen, operatives, and laborers	1.2	1.9	1.1	1.9	2.1	1.9
Service and farm	1.8	4.3	1.7	4.1	2.9	6.0

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, "Educational Attainment of Workers, 1975 to 1978", *Monthly Labor Review*, February, 1979.

Chart 3.18
Occupations of Employed College Graduates by Sex and Race

College graduates were less likely to be employed in white collar jobs in 1978 than they were a decade earlier. Of those employed in white collar jobs in 1978, more were employed in sales or clerical jobs than in 1968.

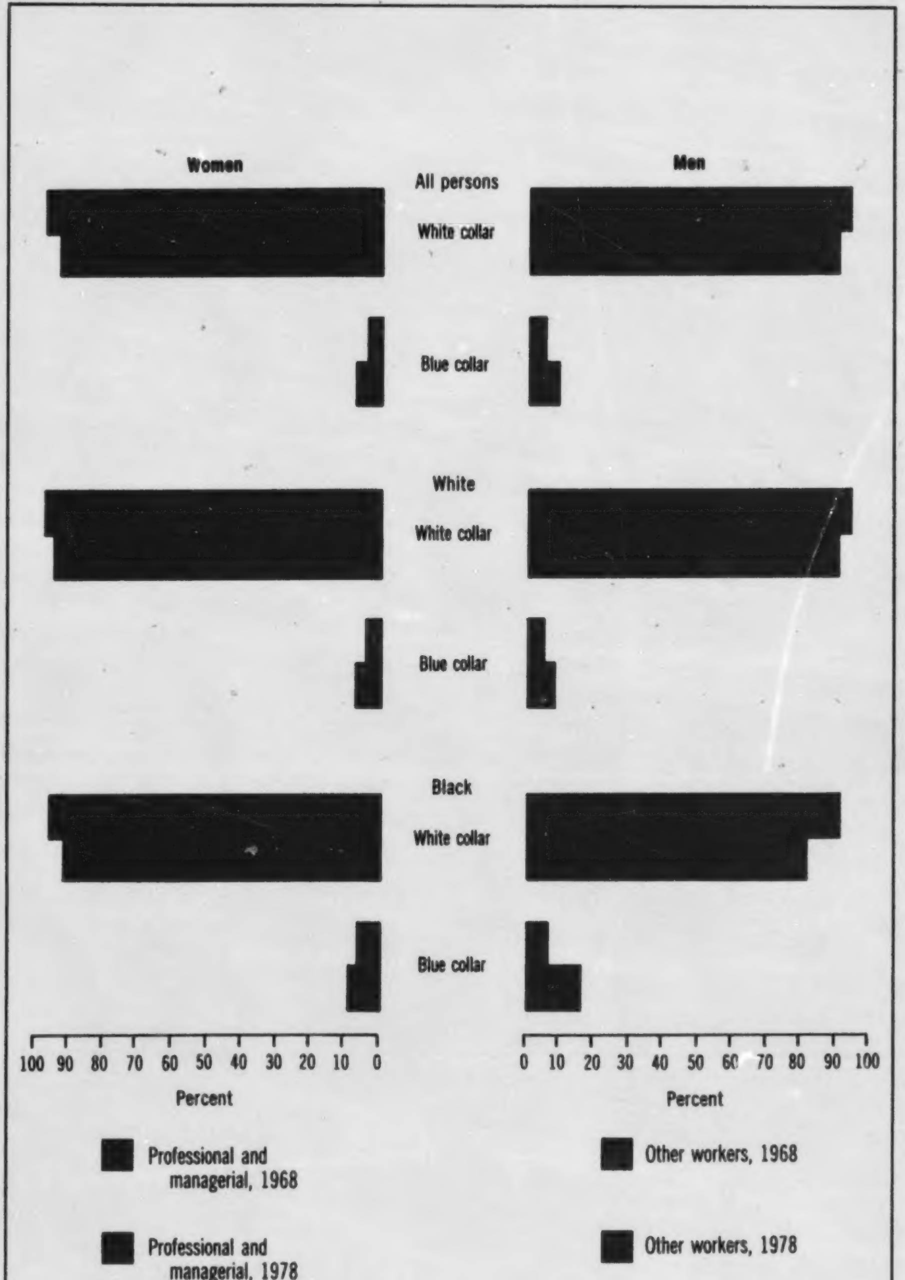

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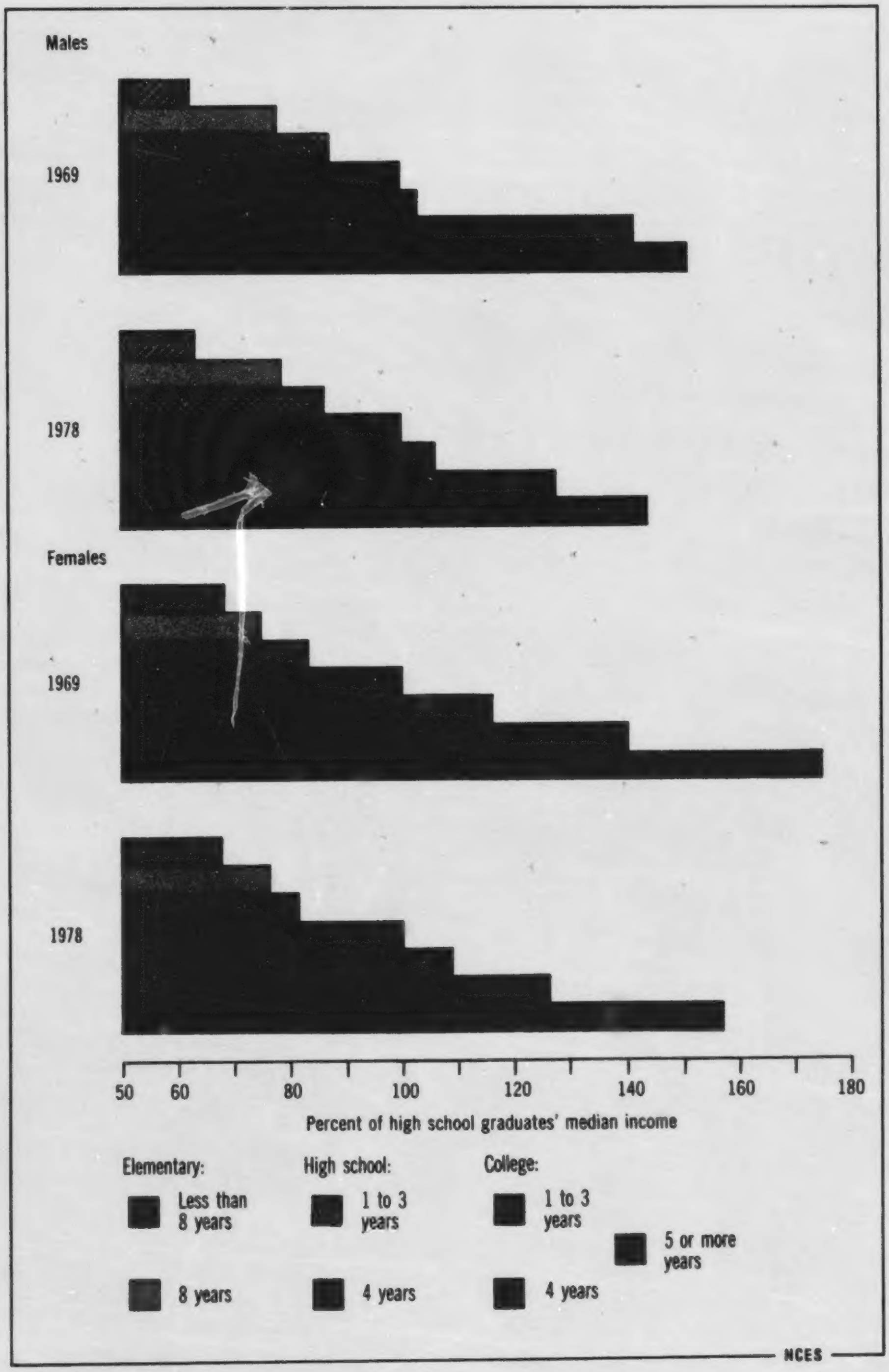
Table 3.19
Median income (current dollars) of year-round full-time workers, 25 years old and over, by sex and educational attainment: 1969 and 1978

Year and sex	Elementary		High school		College		
	Less than 8 years	8 years	1 to 3 years	4 years	1 to 3 years	4 years	5 or more years
				Median income			
Males							
1969	$ 5,769	$ 7,147	$ 7,958	$ 9,100	$10,311	$12,960	$13,788
1978	10,747	12,695	14,199	16,396	17,411	20,941	23,578
Females							
1969	$ 3,603	$ 3,971	$ 4,427	$ 5,280	$ 6,137	$ 7,396	$ 9,262
1978	6,648	7,489	7,996	9,769	10,634	12,347	15,310
			Median income as a percent of high school graduates' median income				
Males							
1969	**63.4**	**78.5**	**87.5**	**100.0**	**113.3**	**142.4**	**151.5**
1978	**63.9**	**79.1**	**86.6**	**100.0**	**106.2**	**127.7**	**143.8**
Females							
1969	**68.2**	**75.2**	**83.8**	**100.0**	**116.2**	**140.1**	**175.4**
1978	**68.1**	**76.7**	**81.9**	**100.0**	**108.9**	**126.4**	**156.7**
			Females' median income as a percent of males' median income				
1969	62.5	55.6	55.6	58.0	59.5	57.1	67.2
1978	63.5	59.0	56.3	59.6	61.1	59.0	64.9

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Consumer Income*, Series P-20, No. 120, 1979.

Chart 3.19
Median Income as a Percent of High School Graduates' Median Income by Educational Attainment

The income gap between workers at the lowest and highest educational attainment levels narrowed slightly over the past decade, primarily because of a closing of the gap between high school graduates and those with more education.



The Condition of Education

II Selected Topics in Education

Chapter 4

Higher Education Finance

In the 1980's, higher education is expected to undergo changes that may seriously affect its financial character and possibly threaten the economic viability of some institutions. Throughout the 1970's, concern was expressed over the consequences of falling enrollment. Now, at the beginning of the 1980's, projected enrollment declines are joined by double-digit inflation in an unprecedented combination that may produce an extended period of lower revenues and higher expenditures. This is a particularly unsettling specter for an enterprise that just recently completed the greatest period of growth and expansion in its history. The impact of these demographic and economic forces will vary among higher education institutions. Some will adapt with only minor alterations, while others may suffer irreparable damage, but no sector of higher education will be unaffected.

The impact of these changes on the financing of higher education is discussed in this chapter. Public and private institutions will encounter different kinds of problems arising from the enrollment declines and economic conditions of the 1980's; these will be examined separately. An analysis of historical revenue and expenditure patterns and a discussion of possible future trends will be presented in individual sections. The effect of the changing financial condition of higher education on students and faculty will also be explored.

Expenditures

Between 1969 and 1978, current expenditures at public institutions more than tripled; at private schools they more than doubled (entry 4.1). When adjusted for inflation, expenditures of public institutions grew from $27.1 billion in 1969 to $33.6 billion in 1978, as expressed in constant 1978–79 dollars. Private institutions spent $13.6 billion in 1969 compared with $16.7 billion at the end of the period. A closer examination of current expenditures by function shows that outlays for student education increased between 1975 and 1978 in both the public and private sector (entry 4.2). Operation and maintenance, a component of this category, increased 13 percent in constant 1978–79 dollars—from $3.7 billion in 1975 to $4.2 billion in 1978. Public and private universities reduced the proportion of total expenditures for research support, as did public 4-year institutions. This change was due primarily to the leveling-off of Federal support to colleges and universities for research and development, as was discussed in chapter 1. Generally, the proportion of expenditures for other categories remained unchanged.

Since 1973, the cost of utilities has skyrocketed, led by increases for heating oil and natural gas (entry 4.3). As measured by the Higher Education Price Index, natural gas prices increased four-fold between 1971 and 1978. Heating oil prices rose to more than three times the 1971 level and commercial power doubled during the same period. The composite utilities index, designed to reflect a representative mix of an institution's energy needs, more than doubled during the 8-year period. Conservation strategies employed in higher education followed three approaches: *quick fix* efforts involved adjusting existing heating and lighting levels to achieve immediate reductions; *refitting* required detailed engineering analysis of energy usage, followed by modification or automation of existing systems to produce greater efficiency; and *system conversion* involved changing an existing heating/cooling plant to an alternative fuel source and generally required expensive capital investment. Changes in the academic calendar were also considered to conserve energy and reduce costs.

Labor costs account for more than 80 percent of total college and university expenditures. Two factors limit the amount of flexibility fiscal officers have in this area. First, 62 percent of all full-time faculty members hold tenured positions. During the rapid growth of the 1960's and the 1970's, instructional staffs were greatly expanded; tenured positions grew at a corresponding rate. Currently, in order to reduce the number of tenured faculty, an institution is required, in each case, to demonstrate substantial need and to give one year's notice of termination. Second, inflation doubled the cost of living in the past 10 years and continuously raises the costs of supporting faculty salaries. Although faculty pay has not kept pace with inflation (as discussed in the previous chapter) it has increased in current dollars, contributing strongly to overall expenditure growth.

Faculty salaries are the major component of the broader category of instructional expenditures. Between 1975 and 1978, expenditures per-student for instruction at public institutions increased in 41 States when expressed in 1978–79 constant dollars (entry 4.4). Eight States recorded lower expenditures per student for instruction.

Despite future enrollment declines, costs may not be reduced; in fact, the per-student or unit cost of instruction may continue to increase. Unit costs normally decrease by increasing the student-faculty ratio. With declining enrollments and a large tenured faculty this ratio may fall to the extent that total costs could actually rise. Unless current expenditures keep pace, inflation could raise the cost of instruction to the extent that quality will suffer. The lengthy process required to reduce the number of tenured faculty makes it difficult to quickly achieve an economically efficient student-faculty ratio. For this reason, increased efficiency may not result from declining enrolment. This paradox of lower enrollment and higher costs is expected to trouble higher education in the 1980's.

Revenue

Expenditure increases have been paid for through three important revenue sources: student tuition, government aid, and philanthropic contributions. Although public and private institutions showed similar expenditure patterns in 1978, they relied on a diverse mix of sources for income (entry 4.5). The largest sources of revenue for private schools were student tuition charges and private support, while public colleges and universities received their greatest financial support from State governments. Because of these differences in sources of support, the changing fiscal environment of the 1980's will create unique problems for public and private institutions.

In 1968, private universities received 25 percent of their total revenue from tuition receipts. In 1978, they depended on tuition for 28 percent of the total, a 200 million dollar increase in dependence on this source. Future enrollment declines may limit revenue from this source. As noted in chapter 3, enrollment in higher education reached 11.3 million students in 1978, and further increases are projected to continue through 1981. This will cap a 30-year trend of enrollment increases that were accomodated by the ambitious expansion of existing facilities and the construction of new institutions. By the end of the decade, enrollment could be as low as 9.5 million students. These changes in enrollment may result in under-utilization of the facilities constructed during the 1960's and early 1970's. While the costs associated with this overcapacity can be reduced by closing or converting unused space, fixed costs will have to be absorbed. For some institutions, lower enrollment will not result in lower expenditures; on the contrary, expenditures will continue to increase with fewer students contributing tuition payments to current revenue.

Higher education in the private sector has traditionally attracted students by offering high quality education and program diversity. This has been financed substantially through higher tuition than found in the public sector. The difference between public and private tuition charges for all institutions has been approximately $2,300 for the past 10 years, when adjusted for inflation (entry 4.6). In order to attract students in the future, private institutions must maintain their reputation for quality without significantly widening the "tuition gap." Although tuition is the largest source of revenue in the private sector, its potential is restricted by competition with lower-cost public institutions. This ceiling on tuition has stabilized real student charges over the past decade. Average charges at private 2-year and 4-year institutions have either remained constant or have actually dropped since 1968, after adjustment for inflation. Average tuition expressed in constant dollars actually fell slightly. It dropped between 1968 and 1979 from $2,566 to $2,562 at 4-year institutions, and from $1,838 to $1,764 at 2-year schools. Given the necessity of keeping tuition at a competitive level and the trend toward lower enrollments, the percentage of total revenue acquired from this source may diminish in the future.

One of the goals of public higher education is to increase educational opportunity by reducing financial barriers. This policy helped attract large numbers of students during the 1960's and early 1970's, when the proportion of total enrollment in public institutions increased from 67 percent in 1965 to 78 percent in 1978. Revenue from tuition increased significantly during this period even though average student charges decreased slightly. Tuition revenue at public institutions accounted for 11 percent of total revenue in 1968 and 13 percent of total receipts in 1978. Tuition revenue was of growing importance in many individual State systems (entry 4.7). Between 1966 and 1978, the proportion of total revenue acquired through tuition increased in 25 State university systems, decreased in 20, and remained unchanged in 5.

The enrollment declines anticipated for the 1980's could reduce the amount of revenue derived from tuition charges. For reasons discussed above, declining enrollment may not translate into a corresponding decline in expenditures. Current revenue may decrease at those public institutions that depend highly on tuition. Two remedies to this situation might be to raise tuition or increase government support. But either of these alternatives could have ramifications throughout higher education. Increased tuition charges would restrict participation if not accompanied by expanded student financial aid. Increased government aid to public institutions might give them an unfair competitive advantage over private schools, and remove incentives for the public sector to adjust to a more austere fiscal environment. It is clear that financial difficulties in the 1980's may present Federal and State government with difficult political questions that require a basic reconsideration of their commitment to low-cost public higher education.

Government financial support is important to both public and private higher education. Direct operating subsidies from State governments were the largest single source of revenue for public schools in 1978 (as shown in entry 4.10). Private institutions received small direct government appropriations but substantial support came in the form of government grants and contracts, most often relating to Federal research projects. As discussed in chapter 1, government aid for higher education construction in 1978 was less than the $1.2 billion spent in 1957, and down from its peak of $4.6 billion in 1967. The focus of public support is no longer on expanding capacity to meet annual enrollment increases but rather to supply fiscal resources lost to inflation and declining enrollment.

An annual comparison of revenue from government sources since 1966 reveals several trends. State aid increased steadily, rising from $6.5 billion in 1966 to more than $16 billion in 1978, as expressed in 1978–79 constant dollars (entry 4.8). These increases reflect the expansion of higher education during this period. As enrollment stabilized and construction activity subsided during the 1970's, the rate of increase in State expenditures declined. Revenue from the Federal Government, which dropped substantially in 1969 as a result of lower research expenditures, increased to its 1978 level of just under $7 billion. Newly announced Federal initiatives to increase basic research in the future will provide much needed support for higher education, especially to major research institutions. Local support for higher education grew substantially during the late 1960's and early 1970's as the community college system was established. Current revenues from local governments have since leveled off to an annual rate of approximately $2 billion.

One useful measure of government support of higher education is State and local appropriations per student (entry 4.9). Between 1975 and 1978, 41 States increased their per-student appropriation, while a decrease occurred in only 7 States. Although these data have not been corrected for geographic cost differentials, they do portray the increased burden of supporting public higher education. Given the political climate characterized by California's Proposition 13, it may be difficult to convince voters that future enrollment declines will not translate into smaller appropriations for higher education.

Another important source of revenue for higher education derives from private sources. Private institutions received approximately 10 percent of their total revenue from private gifts, grants, and contracts in 1978; public schools received 5 percent from this source. In the past 10 years, revenue from private gifts, grants, and contracts increased 65 percent at public institutions and 16 percent at private schools, after adjustment for inflation (entry 4.10). This category includes revenue from research contracts with private concerns that has increased substantially in recent years.

Private support for higher education includes the revenue received from voluntary giving by individuals, foundations, alumni, corporations, and religious organizations (entry 4.11). Total voluntary support decreased slightly from $3.4 billion in 1977 to $3.3 billion in 1978, as expressed in constant 1978–79 dollars. Calculated on a per-student basis, voluntary giving has fallen from $377 in 1972, to $289 in 1978. In 1972, voluntary support amounted to 7.9 percent of total expenditures; by 1978 this proportion had fallen to 6.6 percent of total outlays.

An examination of the sources of voluntary contributions to higher education in 1978 shows that nonalumni individuals gave the largest amount, $838 million, followed by alumni with $781 million (entry 4.12). Religious denominations contributed the smallest amount, $173 million, but this was the primary source of support for a small number of institutions. Foundations and business corporations contributed $682 million and $556 million, respectively, in 1978. A survey conducted in 1977 shows that higher education received more than one-quarter of total corporate contributions, second only to health and welfare causes (entry 4.13).

Private contributions often go directly into an institution's endowment fund. When invested, these funds generate dividends and interest income that provide revenue for current operations. The endowment principal is rarely drawn upon and remains intact to provide an independent, long-term source of income. Private institutions received 5 times the endowment income of public schools in 1978 and therefore depended on it to a much greater extent. Because of recent economic conditions, endowment income has fluctuated (entry 4.14). Endowment income at private institutions has decreased since 1975, and remained below the 1974 peak level of $850 million in constant 1978–79 dollars.

An important measure of endowment strength is its market value. Comparing the market value of endowment at the beginning and end of a fiscal year measures how much it has gained or lost during the period. Between 1976 and 1978, the number of institutions reporting losses of endowment market value nearly doubled (entry 4.15). The largest number of schools reporting a loss were private 4-year institutions: in 1976, 154 reported losses of endowment market value and this number increased to 298 by 1978. The turbulent market conditions of the past few years have adversely affected the long-term position of these endowments largely because of their generally conservative investment strategies.

In the past, contributions from private sources have provided as much as 15 percent of total higher education revenue in the form of gifts, contracts, and additions to endowments. However, it is a source of revenue that is costly and time-consuming to cultivate, and contributions can fluctuate widely because of changing political and economic conditions. At the same time, it is also true that private giving has unlimited potential and can provide needed revenue to those institutions capable of successfully campaigning for it. Consequently, despite its inherent drawbacks, private philanthropy will continue to be a critical income source. In the future, financially pressed colleges and universities will probably compete for private contributions just as energetically as they compete for students.

The specter of large numbers of colleges and universities in financial difficulty has spawned a concerted effort to identify those schools having problems. The development of indicators of financial health will assist this effort and aid the administrators, planners, and politicians who face decisions regarding the future of higher education. One of the greatest roadblocks to developing accurate indicators is the diversity of accounting procedures and financial systems among institutions of higher education. Their great variety makes it difficult to state a general definition of financial distress. Some rudimentary indicators are available from the Higher Education General Information Survey data collected by the National Center for Education Statistics.

One broad indicator of financial health is the balance between expenditures and revenues. Since 1976, the number of institutions reporting current expenditures greater than current revenues increased at every level of public and private higher education except universities (entry 1.16). These revenue shortfalls were most prevalent among public 2-year and private 4-year institutions. An analysis of institutions reporting negative current fund balances—negative balance at the beginning of the year, net outflow during the year, and negative balance at the end of the year—reveals interesting results when applied over the period 1976 to 1979. For three consecutive years, 24 public institutions and 104 private institutions met these three conditions. This represents only 2 percent of public schools and 8 percent of private colleges and universities, yet it is indicative of the financial problems currently existing in higher education.

Financial Aid

In a period of declining enrollment, student financial aid is increasingly important for two reasons. First, it provides access to higher education to those who might not be able to afford it otherwise. Second, it provides institutional support by subsidizing tuition charges. This is especially important in the private sector where tuition is much higher than at public institutions.

By partially equalizing costs, student financial aid programs promote competition among public and private institutions, thereby maintaining the diversity of higher education. A basic premise of Federal financial aid programs is that the most aid goes to those least able to pay. As evidence of this policy, the expected family contribution of financial aid applicants is least for the lowest income families (entry 4.17). As family income increases so does the percentage of college costs paid by the student and his or her family.

The four major Federal student financial aid programs are: Basic Educational Opportunity Grants (BEOG), College Work Study (CWS), National Direct Student Loan (NDSL), and Supplemental Education Opportunity Grants (SEOG). Since its inception in 1972, the BEOG program has grown rapidly and by 1979 had the largest number of recipients, 270,000, and the greatest appropriation, $2.4 billion, of the four programs (entry 4.18). The SEOG and NDSL programs had stable participation and appropriation levels between 1973 and 1978.

Student loans extend financial assistance initiatives to include students from higher income families by providing low-interest loans with liberal repayment terms. The NDSL program has been plagued by high default rates and ineffective collection efforts. In the first such effort, the U.S. Office of Education reported a default rate on NDSL obligations of between 14 percent at private universities and 34 percent at public 2-year institutions in 1978 (entry 4.19). A total of over $700 million was in default, with almost $300 million of this from students at public universities.

Student loans are also available through State agencies and commercial lenders making loans insured by the Federal government or directly by the Federal government through the Guaranteed Student Loan program. In 1977–78, 29 States had student loan authorities providing between 29 and 93 percent of the average total amount borrowed by a student in his or her State (entry 4.20). There appears to be no significant correlation between the size of average student loans in a State and the percentage provided by State lending agencies. Some States with relatively high average student loans have no such agency, while States with low average loans, such as Alaska, do have State guarantee agencies. As a result of 1976 legislation, State guarantee agencies have been growing in number and now total 42.

Table 4.1
Total current funds expenditures, by control of institution: Aggregate United States, 1969 to 1978

Control	Fiscal year 1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
	(Amount in thousands)									
Public										
Current dollars ...	$11,512,831	$13,349,667	$15,112,477	$16,608,073	$18,348,442	$20,494,126	$23,683,557	$26,367,592	$28,831,177	$30,725,119
Constant 1978–79 dollars	**22,128,812**	**24,224,306**	**26,078,090**	**27,662,402**	**29,374,021**	**30,116,118**	**31,338,083**	**32,579,797**	**31,549,957**	**33,622,498**
Private										
Current dollars ...	7,065,941	7,812,010	8,402,748	9,110,461	9,793,990	10,442,244	11,617,384	12,783,392	14,043,273	15,245,671
Constant 1978–79 dollars	**13,581,445**	**14,175,673**	**14,499,782**	**15,174,384**	**15,679,199**	**15,344,878**	**15,373,123**	**15,795,159**	**15,367,554**	**16,638,338**

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Financial Statistics of Institutions of Higher Education, 1969–78.*

Chart 4.1
Total Expenditures in Higher Education

Since 1969 expenditures of public institutions have increased at a much higher rate than expenditures of private institutions.

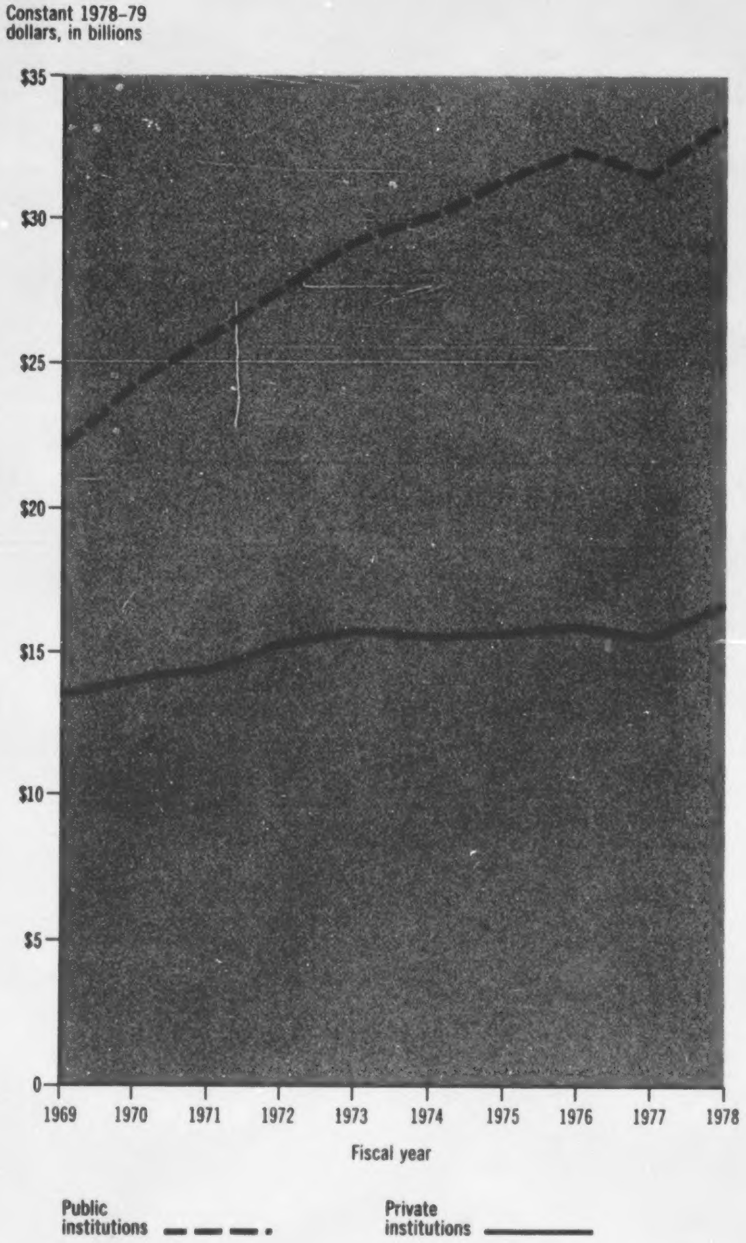


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Table 4.2
Amount and percentage distribution of current expenditures of institutions of higher education, by function, control, and level of institution: 1975 and 1978

Source	All institutions	Public			Private		
		Universities	Other 4-year institutions	2-year institutions	Universities	Other 4-year institutions	2-year institutions
				Fiscal year 1975			
Amount, in thousands	$35,057,563	$10,179,729	$ 9,129,431	$4,180,821	$5,476,375	$5,810,851	$280,255
				Percentage distribution			
Total	100	100	100	100	100	100	100
Education and general	79	79	77	94	72	72	81
Student education[1]	61	56	66	85	48	60	71
Research[2]	9	14	6	1	16	3	(7)
Scholarships and fellowships[3]	4	3	3	3	6	7	6
Public service	3	6	2	2	1	1	1
Mandatory transfers[4]	1	1	2	3	1	2	3
Auxiliary enterprises[5]	12	13	11	6	10	16	19
Hospitals and independent operations[6]	10	9	10	(7)	18	10	(7)
				Fiscal year 1978			
Amount, in thousands	$45,970,790	$12,921,155	$12,091,923	$5,712,041	$7,175,143	$7,710,330	$360,198
				Percentage distribution			
Total	100	100	100	100	100	100	100
Education and general	79	78	79	94	71	74	84
Student education[1]	62	54	67	87	48	60	78
Research[2]	8	14	5	(7)	15	4	(7)
Scholarships and fellowships[3]	4	3	3	3	6	7	6
Public service	3	6	2	2	2	2	1
Mandatory transfers[4]	1	1	2	2	1	2	2
Auxiliary enterprises[5]	11	13	11	6	10	15	17
Hospitals and independent operations[6]	11	10	12	0	19	12	(7)

[1] Includes instruction, academic support, libraries, institutional support, student services, and operation and maintenance of the plant.

[2] Includes all sponsored research and other separately budgeted research with the exception of federally funded research and development centers which are included under "independent operations."

[3] Monies given in the form of outright grants and trainee stipends to individuals enrolled in formal coursework, either for credit or not. Includes aid in the form of tuition or fee remissions.

[4] Mandatory transfers from current funds are those that must be made to fulfill a binding legal obligation of the institution. Includes debt service provisions relating to academic buildings, including amounts set aside for debt retirement and interest, and required provisions for renewal and replacements to the extent not financed from other sources.

[5] Includes residence halls, food services, college store, and intercollegiate athletics.

[6] Includes expenditures for hospitals and for "independent operations" which are generally limited to expenditures of federally funded research and development centers. Includes mandatory transfers from hospitals and independent operations.

[7] Less than 0.05 percent.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 4.2
Expenditures in Higher Education by Function

Expenditure patterns varied significantly among institutions by control and level, but changed only slightly over time.

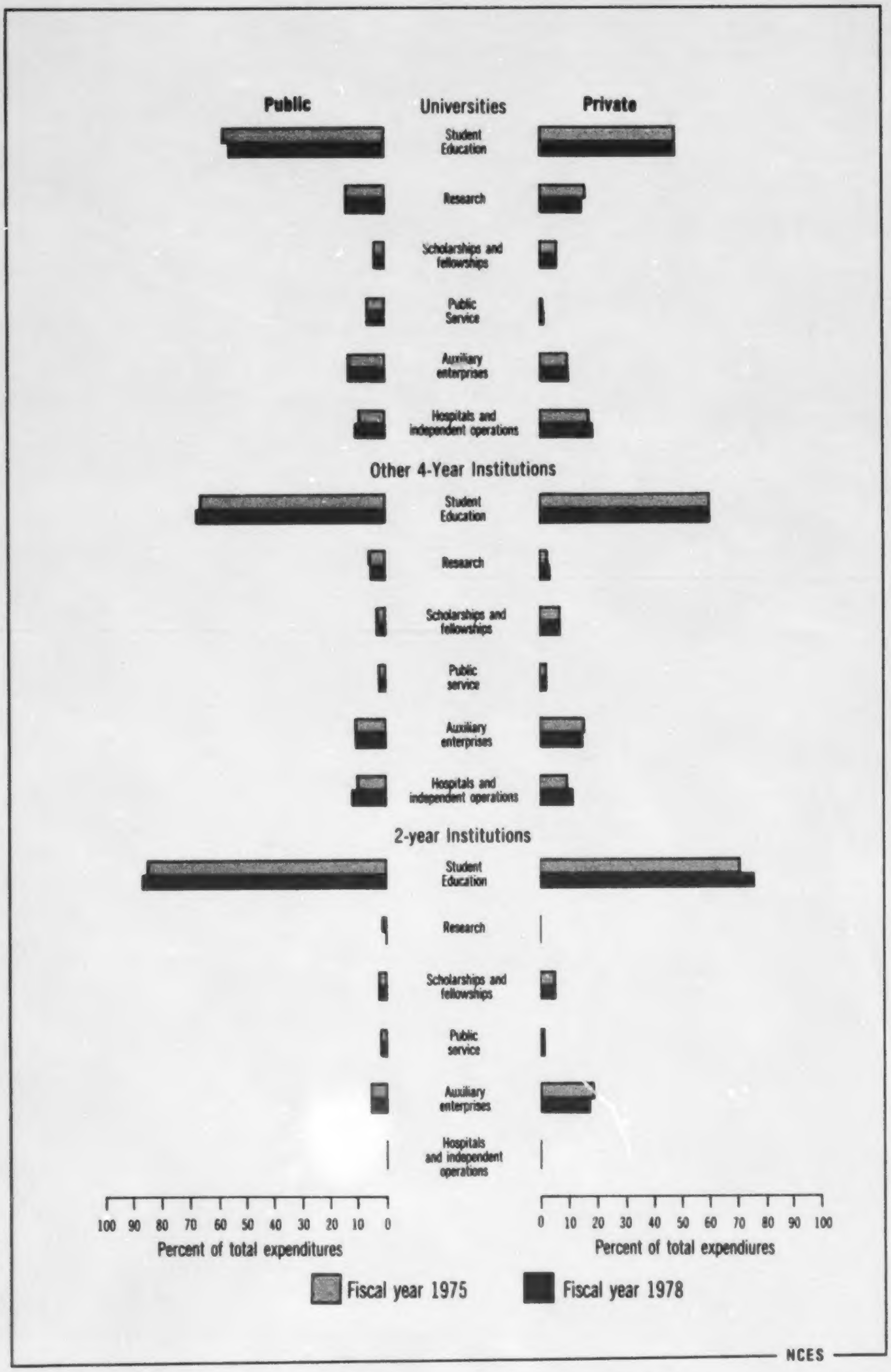

Table 4.3
College and university energy and utility price indexes: Fiscal year 1971 to 1978

Utility	1971	1972	1973	1974	1975	1976	1977	1978	1979
Composite utilities index[1]	114.6	122.4	129.0	158.3	202.9	219.1	258.1	292.5	320.8
Natural gas	109.6	117.0	126.4	142.5	183.6	242.5	364.3	454.8	550.4
Commercial power	107.8	116.2	122.4	137.0	167.6	181.3	196.9	217.6	224.8
Residual fuels (heating oil)	150.3	154.3	158.1	323.6	491.5	437.2	470.0	487.2	515.6
Water and sewerage	130.1	138.5	144.3	152.3	164.4	181.3	200.9	224.4	242.7

[1] Composite utilities index based on weighted average as follows: natural gas, 20 percent; commercial power, 60 percent; residual fuels, 10 percent; water and sewerage, 10 percent.

SOURCE: U.S. Department of Health, Education, and Welfare, National Institute for Education, *Higher Education Prices and Price Indexes, 1978 supplement.*

Chart 4.3
Changing Utility Prices

The cost of heating fuels paid by colleges and universities increased dramatically between 1971 and 1978.

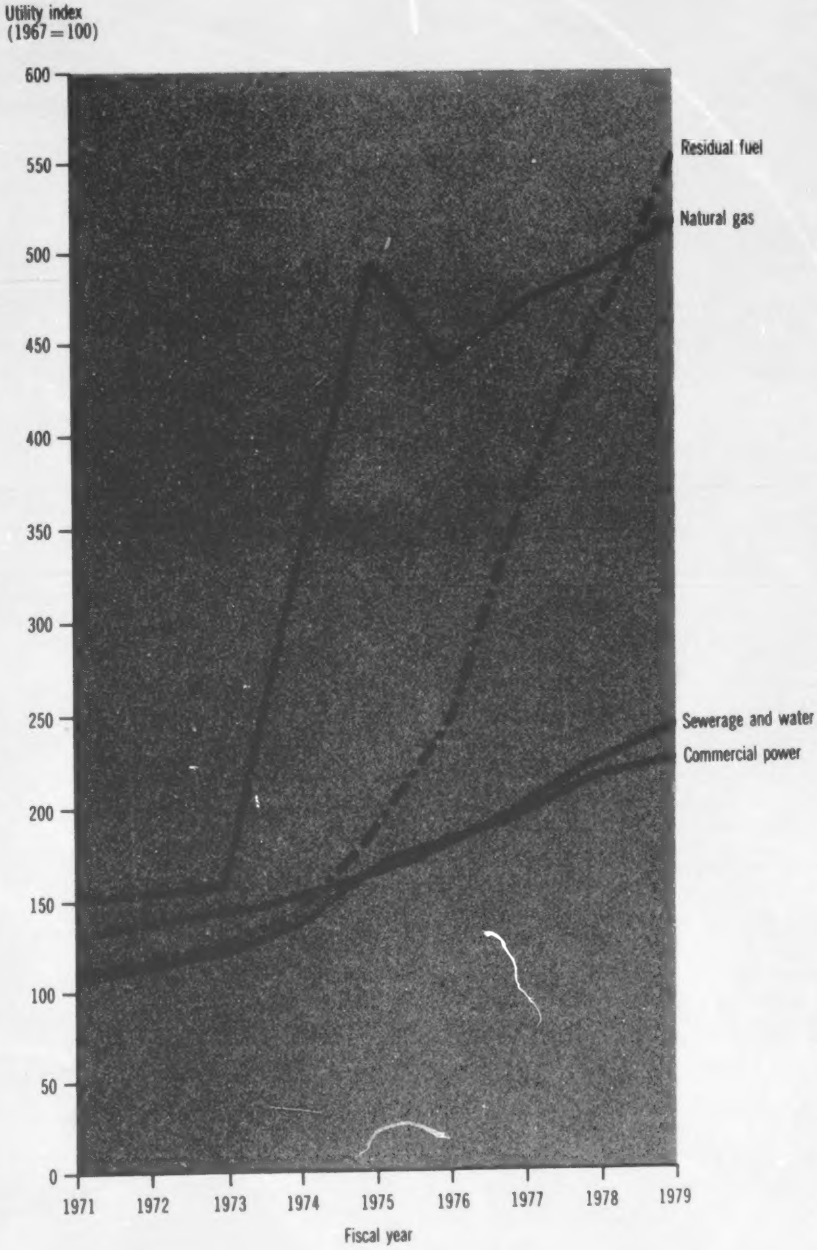

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Table 4.4
Per-student expenditures for instruction[1] in public institutions of higher education: 1975 and 1978

State	Total expenditures for instruction in thousands of 1978–79 constant dollars		Per student expenditures for instruction in 1978–79 constant dollars	
	1975	1978	1975	1978
Alabama	$171,819	$224,470	$1,179	$1,805
Alaska	23,765	34,316	1,798	1,618
Arizona	172,847	189,919	1,024	1,076
Arkansas	72,125	84,232	1,285	1,374
California	1,547,633	1,744,827	957	1,117
Colorado	178,029	195,359	1,306	1,399
Connecticut	97,695	102,194	1,044	1,105
Delaware	39,820	42,697	1,470	1,627
District of Columbia	34,819	27,204	1,735	2,046
Florida	372,474	343,838	1,294	1,144
Georgia	198,157	203,730	1,389	1,455
Hawaii	59,781	74,695	1,381	1,727
Idaho	43,741	57,973	1,397	1,808
Illinois	563,240	525,725	1,268	1,124
Indiana	264,142	296,781	1,657	1,739
Iowa	174,775	186,442	2,091	2,159
Kansas	155,250	167,012	1,441	1,467
Kentucky	129,826	175,087	1,233	1,621
Louisiana	157,524	180,834	1,194	1,378
Maine	35,318	35,266	1,135	1,191
Maryland	237,410	246,177	1,344	1,312
Massachusetts	181,947	155,570	1,048	950
Michigan	606,069	647,251	1,388	1,540
Minnesota	219,397	235,215	1,477	1,589
Mississippi	107,394	136,473	1,195	1,563
Missouri	190,199	200,010	1,203	1,295
Montana	38,231	41,794	1,375	1,465
Nebraska	93,299	103,984	1,523	1,552
Nevada	24,266	30,649	808	981
New Hampshire	29,231	31,077	1,208	1,302
New Jersey	278,032	287,165	1,221	1,248
New Mexico	55,639	69,641	1,168	1,353
New York	1,006,995	907,041	1,640	1,669
North Carolina	316,806	341,437	1,573	1,681
North Dakota	45,654	53,778	1,633	1,783
Ohio	493,124	517,427	1,463	1,465
Oklahoma	123,944	152,254	996	1,182
Oregon	165,989	189,389	1,278	1,515
Pennsylvania	442,598	455,624	1,540	1,600
Rhode Island	44,903	42,877	1,389	1,277
South Carolina	141,700	152,528	1,315	1,531
South Dakota	31,345	26,841	1,429	1,191
Tennessee	174,689	208,781	1,252	1,431
Texas	614,948	784,105	1,134	1,382
Utah	93,906	103,210	1,661	1,859
Vermont	34,360	35,864	2,005	2,064
Virginia	241,682	259,892	1,123	1,151
Washington	280,600	293,841	1,385	1,227
West Virginia	64,273	70,421	943	999
Wisconsin	345,742	368,578	1,642	1,730
Wyoming	33,116	32,757	1,831	1,680

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[1] Instruction expenditures for all activities which are part of the institutions' instruction program include: salaries, general academic instruction, occupational and vocational instruction, special session instruction, community instruction, preparatory and adult basic education.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Financial Statistics of Higher Education* 1975, 1978, *Fall Enrollment in Institutions of Higher Education* 1974, 1977.

Chart 4.4
Per Student Expenditures for Instruction at Public Institutions

Per student expenditures for instruction increased in 41 States between 1975 and 1978 when adjusted for inflation.

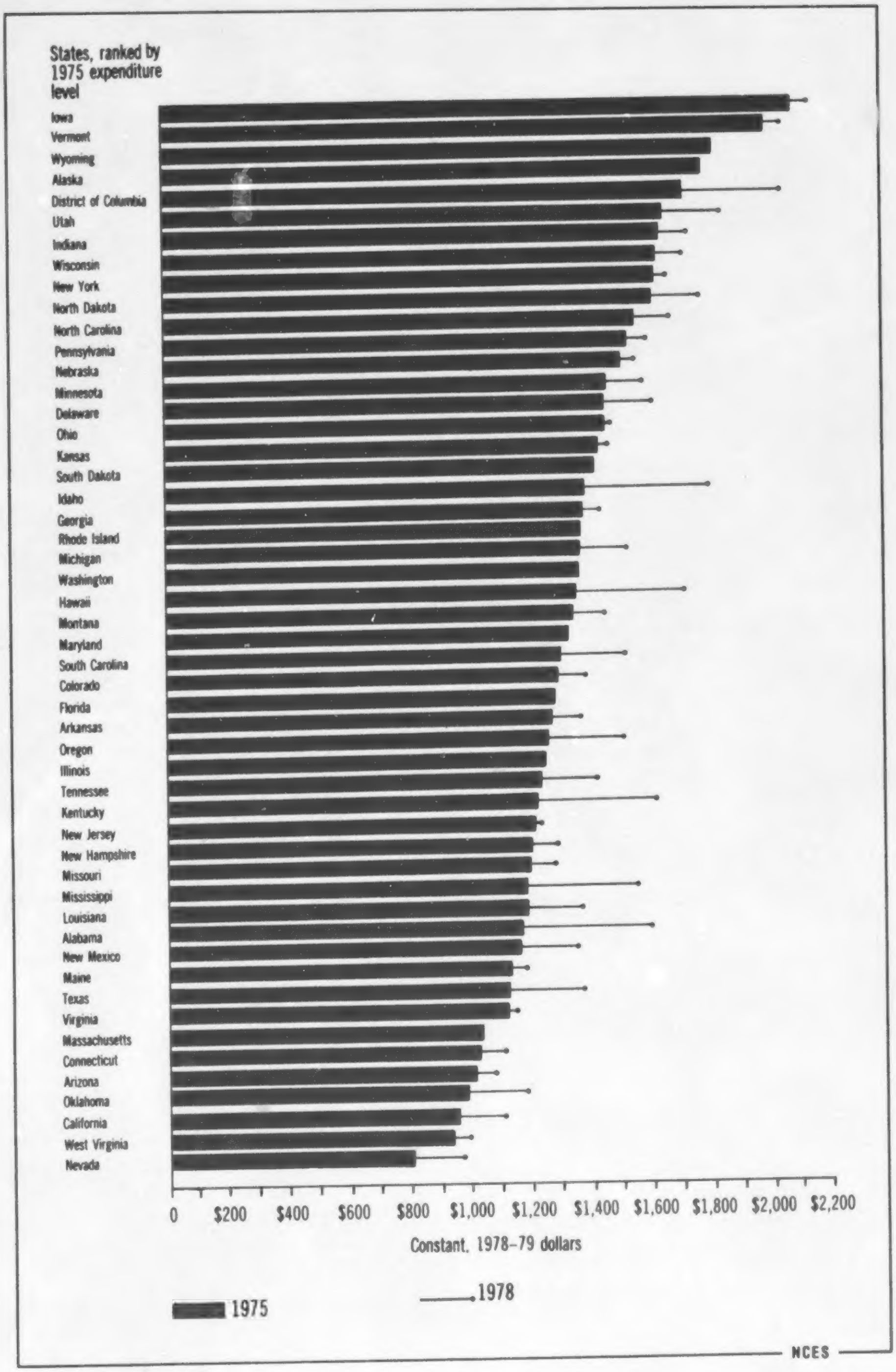

Table 4.5
Amount and percentage distribution of current funds revenues of institutions of higher education, by control and type of institution and source of funds: Fiscal year 1978

Purpose	Universities Amount	Universities Percent	Other 4-year institutions Amount	Other 4-year institutions Percent	2-year institutions Amount	2-year institutions Percent
	(Dollars in thousands)					
	Public					
Total	$13,234,510	100	$12,402,619	100	$5,907,409	100
Tuition and fees	1,689,038	**13**	1,579,026	**13**	873,901	**15**
Federal government	310,623	**2**	481,661	**4**	100,049	**2**
State government	5,405,602	41	5,939,708	**48**	2,627,963	**44**
Local government	33,733	(1)	126,540	1	1,367,047	23
Government grants and contracts	1,948,749	**15**	1,294,994	**10**	426,569	**7**
Private gifts, grants and contracts	501,758	**4**	247,189	2	26,980	(1)
Endowment income	101,527	1	24,031	(1)	3,237	(1)
Sales and services	2,949,799	**22**	2,501,424	**20**	368,373	**6**
Other sources	293,670	2	208,047	2	113,287	2
	Private					
Total	$ 7,295,834	100	$ 7,820,379	100	$373,281	100
Tuition and fees	2,049,248	**28**	3,450,346	**44**	213,712	**57**
Federal government	98,988	1	53,762	1	1,549	(1)
State government	80,102	1	104,989	1	6,684	**2**
Local government	21	(1)	2,749	(1)	2,003	1
Government grants and contracts	1,480,614	**20**	686,410	**9**	22,082	**6**
Private gifts, grants and contracts	667,602	9	834,536	11	42,303	11
Endowment income	384,155	5	314,295	4	5,039	1
Sales and service	1,817,152	**25**	1,773,620	**23**	69,121	**19**
Other sources	717,951	10	599,670	8	10,788	3

NOTE: Details may not add to totals because of rounding.

[1] Less than 0.5 percent.

SOURCE: U.S. Department of Health, Education and Welfare, National Center for Education Statistics, *Financial Statistics of Institutions of Higher Education, 1978*, 1979.

Chart 4.5
Sources of Revenue for Institutions of Higher Education

Tuition and fees comprised the largest source of revenues for private institutions, while State funding was the largest revenue source for public institutions.

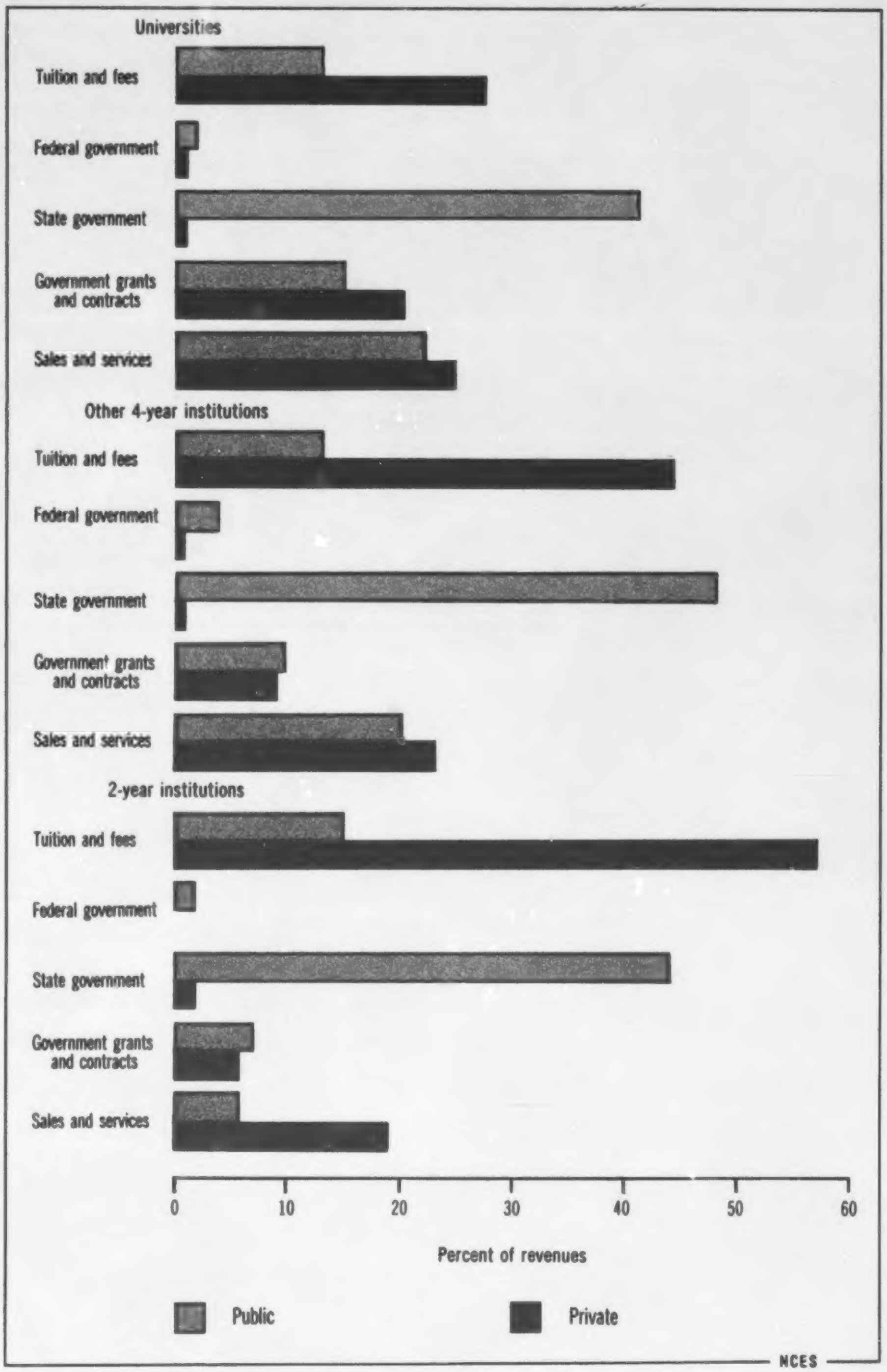

Table 4.6
Average student charges,[1] by control and level of institution: 1968–69 to 1978–79

Academic year	Tuition and fees: All institutions	Tuition and fees: Universities	Tuition and fees: Other 4-year institutions	Tuition and fees: 2-year institutions	Room and board[3]: All institutions	Room and board[3]: Universities	Room and board[3]: Other 4-year institutions	Room and board[3]: 2-year institutions
	(Constant 1978–79 dollars)							
1968–69								
Public	$ 567	$ 725	$ 540	$ 327	$1,580	$1,668	$1,503	$1,370
Private	2,658	3,148	2,566	1,838	1,803	1,989	1,734	1,768
1969–70								
Public	586	775	555	323	1,597	1,697	1,504	1,403
Private	2,782	3,283	2,664	1,876	1,809	2,016	1,727	1,740
1970–71								
Public	606	825	573	323	1,615	1,724	1,508	1,399
Private	2,906	3,417	2,766	1,914	1,819	2,041	1,719	1,715
1971–72								
Public	626	876	590	320	1,634	1,754	1,514	1,467
Private	3,031	3,533	2,866	1,952	1,827	2,069	1,711	1,689
1972–73								
Public	652	906	728	373	1,683	1,764	1,609	1,543
Private	3,039	3,564	2,955	1,955	1,825	2,059	1,742	1,684
1973–74								
Public	644	854	680	403	1,586	1,655	1,533	1,470
Private	2,923	3,490	2,829	1,915	1,728	1,972	1,638	1,627
1974–75[2]								
Public	572	793	593	367	1,522	1,536	1,469	1,405
Private	2,801	3,459	2,586	1,809	1,701	1,934	1,590	1,619
1975–76[2]								
Public	535	793	579	303	1,571	1,648	1,514	1,449
Private	2,807	3,560	2,575	1,763	1,775	2,025	1,658	1,637
1976–77[2]								
Public	554	789	617	320	1,537	1,610	1,481	1,418
Private	2,812	3,669	2,556	1,772	1,726	1,991	1,604	1,621
1977–78								
Public	568	801	637	329	1,511	1,570	1,468	1,410
Private	2,825	3,670	2,585	1,752	1,718	1,983	1,585	1,599
1978–79								
Public	585	770	614	354	1,455	1,516	1,411	1,331
Private	2,793	3,643	2,562	1,764	1,684	1,961	1,561	1,580

[1] Weighted by undergraduate enrollment and based on undergraduate charges.
[2] Revised from previously published data.
[3] Board is calculated on a 7-day basis.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1988–89*.

Chart 4.6
Average Tuition Charges

When adjusted for inflation average tuition charges have decreased since 1968–69 at private 4-year and 2-year institutions, while increasing in all other institutional categories.

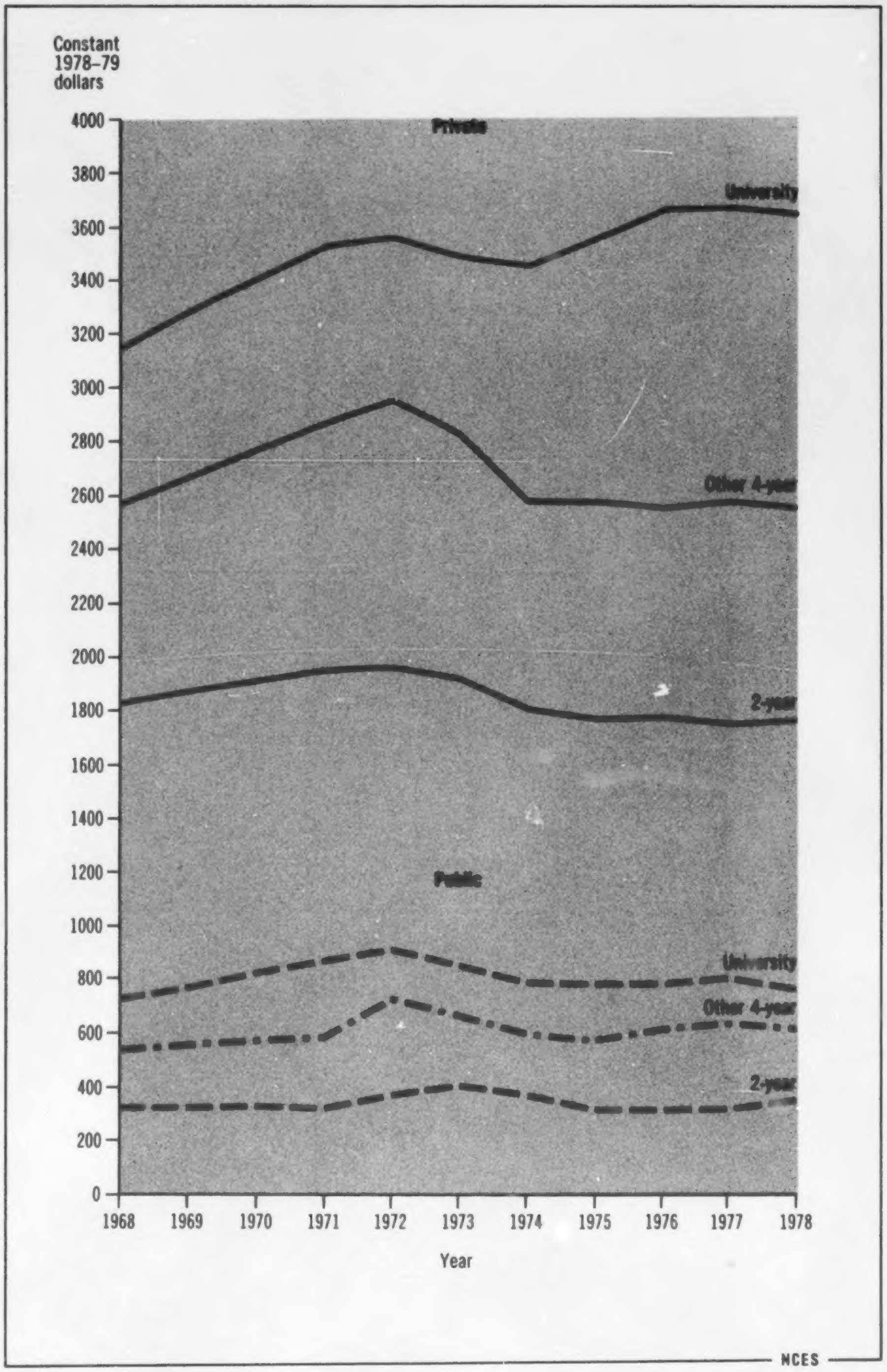

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Table 4.7
Tuition and fees revenues as a percent of total current funds revenues in public institutions of higher education, by State and level of institution: Fiscal years 1966 and 1978

State	1966			1978		
	Universities	Other 4-year institutions	2-year institutions	Universities	Other 4-year institutions	2-year institutions
Alabama	11	20	16	13	11	16
Alaska	5	0	0	2	8	9
Arizona	20	17	9	13	18	11
Arkansas	8	12	0	10	10	15
California	6	11	2	9	7	5
Colorado	15	23	19	20	17	18
Connecticut	4	19	10	9	15	18
Delaware	15	16	0	25	16	14
District of Columbia	0	10	0	8	5	0
Florida	9	15	20	9	15	22
Georgia	11	18	21	10	14	20
Hawaii	9	0	0	9	10	5
Idaho	5	15	25	5	9	10
Illinois	4	6	13	11	12	20
Indiana	10	0	26	17	8	25
Iowa	8	15	23	9	16	18
Kansas	14	20	20	14	9	13
Kentucky	13	14	46	9	15	26
Louisiana	8	8	0	13	12	18
Maine	20	15	0	18	20	17
Maryland	13	10	33	21	18	23
Massachusetts	9	22	43	4	14	22
Michigan	12	17	32	15	22	22
Minnesota	10	27	46	9	17	21
Mississippi	11	22	9	13	11	13
Missouri	13	16	17	10	16	21
Montana	15	18	18	12	13	10
Nebraska	19	38	35	14	11	13
Nevada	15	0	0	12	17	17
New Hampshire	21	32	22	28	35	20
New Jersey	16	24	61	18	17	25
New Mexico	13	14	17	9	10	14
New York	7	11	22	15	17	28
North Carolina	8	19	13	8	14	8
North Dakota	16	24	30	9	13	18
Ohio	24	31	39	20	21	27
Oklahoma	10	17	13	11	10	14
Oregon	11	21	19	14	11	15
Pennsylvania	20	27	41	22	22	35
Rhode Island	16	21	27	17	17	16
South Carolina	16	11	15	10	8	20
South Dakota	16	26	0	17	17	0
Tennessee	14	21	14	12	13	14
Texas	7	12	19	8	6	12
Utah	12	17	17	9	14	12
Vermont	24	23	17	30	34	22
Virginia	15	20	7	10	24	21
Washington	7	7	20	8	12	11
West Virginia	3	11	5	6	10	19
Wisconsin	15	17	11	12	19	10
Wyoming	10	0	15	8	0	9

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Financial Statistics of Institutions of Higher Education.*

Chart 4.7
Tuition and Fees Revenues as a Percent of Total Current Fund Revenues in Public Universities

In 25 States, tuition revenues comprised a larger proportion of total public university revenues in 1978 than in 1966. Five States showed no change, while in 20 States tuition revenues made up a smaller proportion of total public university revenues in 1978 than in 1966.

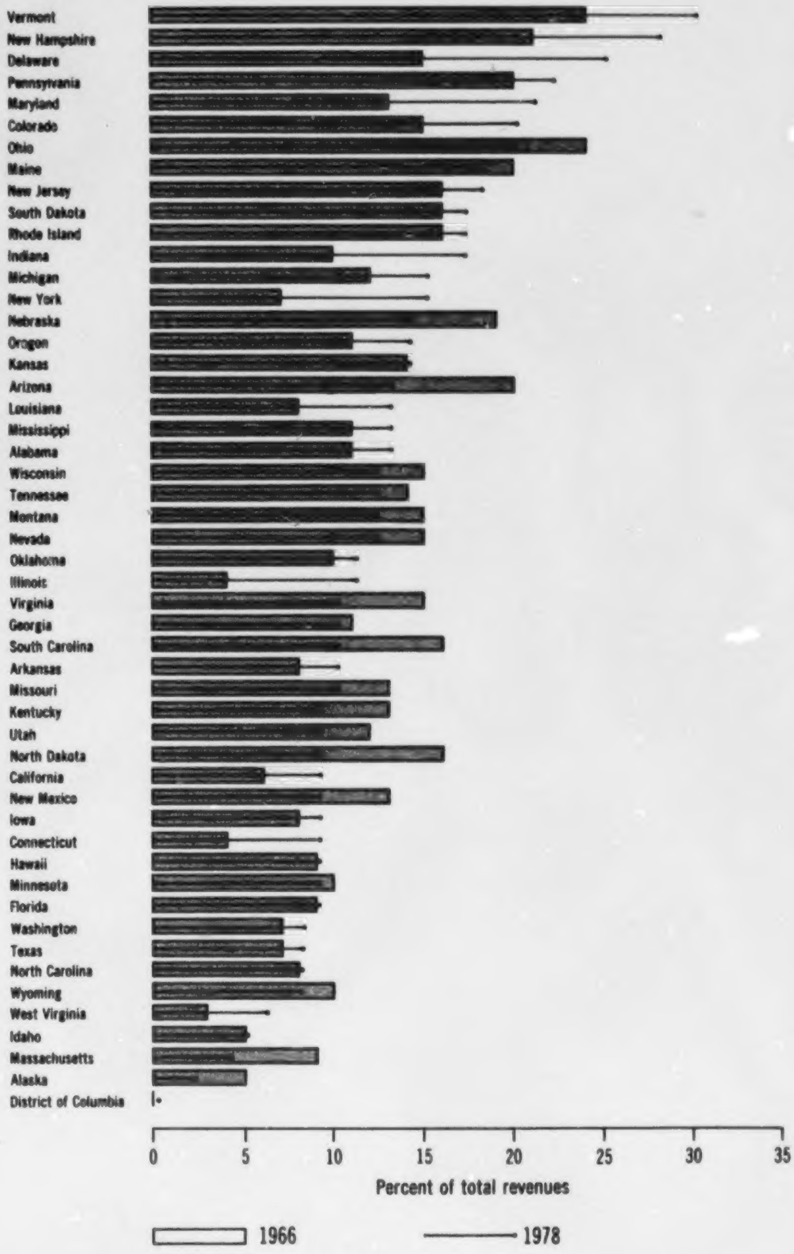

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Table 4.8

Current funds revenues of institutions of higher education, by government source: Aggregate United States, 1960 to 1978

Source	Fiscal year						
	1960	1964	1966	1969	1972	1975	1978
	(Dollars in thousands)						
Federal							
Current dollars	$1,098,497	$2,304,964	$2,760,989	$2,519,860	$3,508,312	$5,029,881	$6,154,912
Constant (1979) dollars	**2,562,354**	**5,119,095**	**5,925,911**	**4,843,171**	**5,843,444**	**6,655,539**	**6,735,320**
State							
Current dollars	1,709,672	2,765,765	3,062,939	4,861,383	7,322,427	10,990,739	14,891,062
Constant (1979) dollars	**3,987,981**	**6,142,487**	**6,573,986**	**9,343,578**	**12,196,234**	**14,542,946**	**16,295,209**
Local							
Current dollars	188,019	303,049	318,586	614,462	1,006,364	1,430,220	1,751,165
Constant (1979) dollars	**438,573**	**673,042**	**683,781**	**1,180,996**	**1,676,200**	**1,892,467**	**1,916,300**

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Financial Statistics of Institutions of Higher Education, 1978*, 1979.

Chart 4.8
Higher Education Revenue by Government Source

State aid to institutions of higher education increased steadily from 1966 to 1978. Revenues from Federal and local government sources fluctuated, but remained relatively constant in terms of constant 1979 dollars.

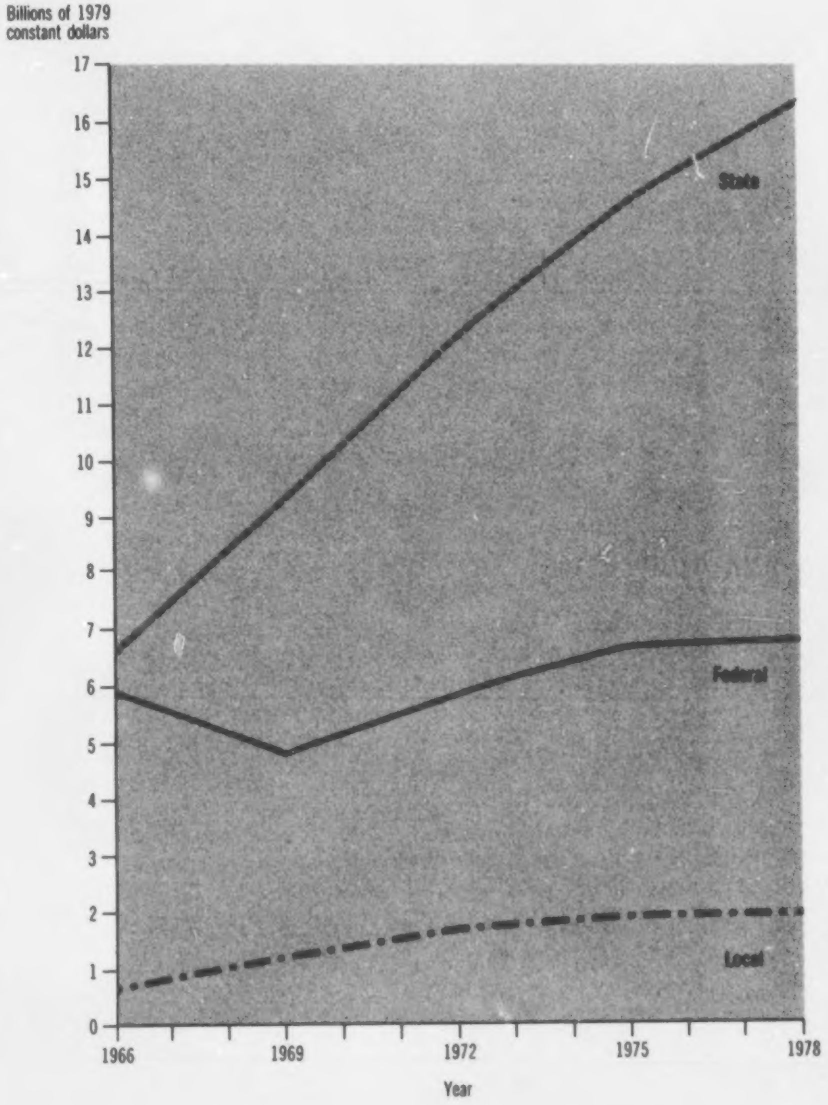

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Table 4.9
State and local government appropriations[1] per full-time-equivalent enrollment[2] in public institutions, by State: Fiscal years 1975 and 1978

State	Per student appropriations (1978–79 constant dollars) 1975	Per student appropriations (1978–79 constant dollars) 1978
Alabama	$1,800	$2,177
Alaska	5,812	5,932
Arizona	1,840	2,256
Arkansas	2,184	2,166
California	1,961	3,092
Colorado	1,534	1,481
Connecticut	1,867	2,150
Delaware	1,720	1,672
District of Columbia	2,586	4,913
Florida	2,070	2,400
Georgia	2,114	2,204
Hawaii	1,887	2,624
Idaho	2,225	2,833
Illinois	2,188	2,306
Indiana	1,906	2,122
Iowa	2,425	2,700
Kansas	1,738	2,242
Kentucky	2,232	2,407
Louisiana	1,800	1,744
Maine	1,851	1,826
Maryland	1,784	2,111
Massachusetts	1,730	1,819
Michigan	1,903	2,194
Minnesota	1,839	2,029
Mississippi	1,770	1,822
Missouri	1,805	2,050
Montana	1,572	1,732
Nebraska	2,033	2,485
Nevada	1,345	2,070
New Hampshire	1,294	1,486
New Jersey	1,835	2,300
New Mexico	1,502	2,154
New York	2,578	2,329
North Carolina	2,392	2,374
North Dakota	1,504	1,867
Ohio	1,487	1,838
Oklahoma	1,287	1,562
Oregon	1,825	2,282
Pennsylvania	1,806	1,806
Rhode Island	2,187	2,510
South Carolina	2,400	2,287
South Dakota	1,706	1,712
Tennessee	1,852	1,900
Texas	1,630	2,367
Utah	1,711	2,205
Vermont	1,274	1,200
Virginia	1,636	1,897
Washington	1,920	2,119
West Virginia	1,814	1,719
Wisconsin	2,302	2,523
Wyoming	2,143	3,376

[1] State and local government appropriations reported by institutions as current fund revenues.

[2] Full-time equivalent enrollment includes part-time enrollment prorated to full-time status.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Financial Statistics of Institutions of Higher Education* 1975, 1978, *Fall enrollment in Higher Education*, 1974, 1977.

Chart 4.9
State and Local Government Appropriations Per Full-Time Equivalent Student Enrollment

State and local government appropriations to public higher education, calculated on a per student basis, increased in 41 States and decreased in 7 States.

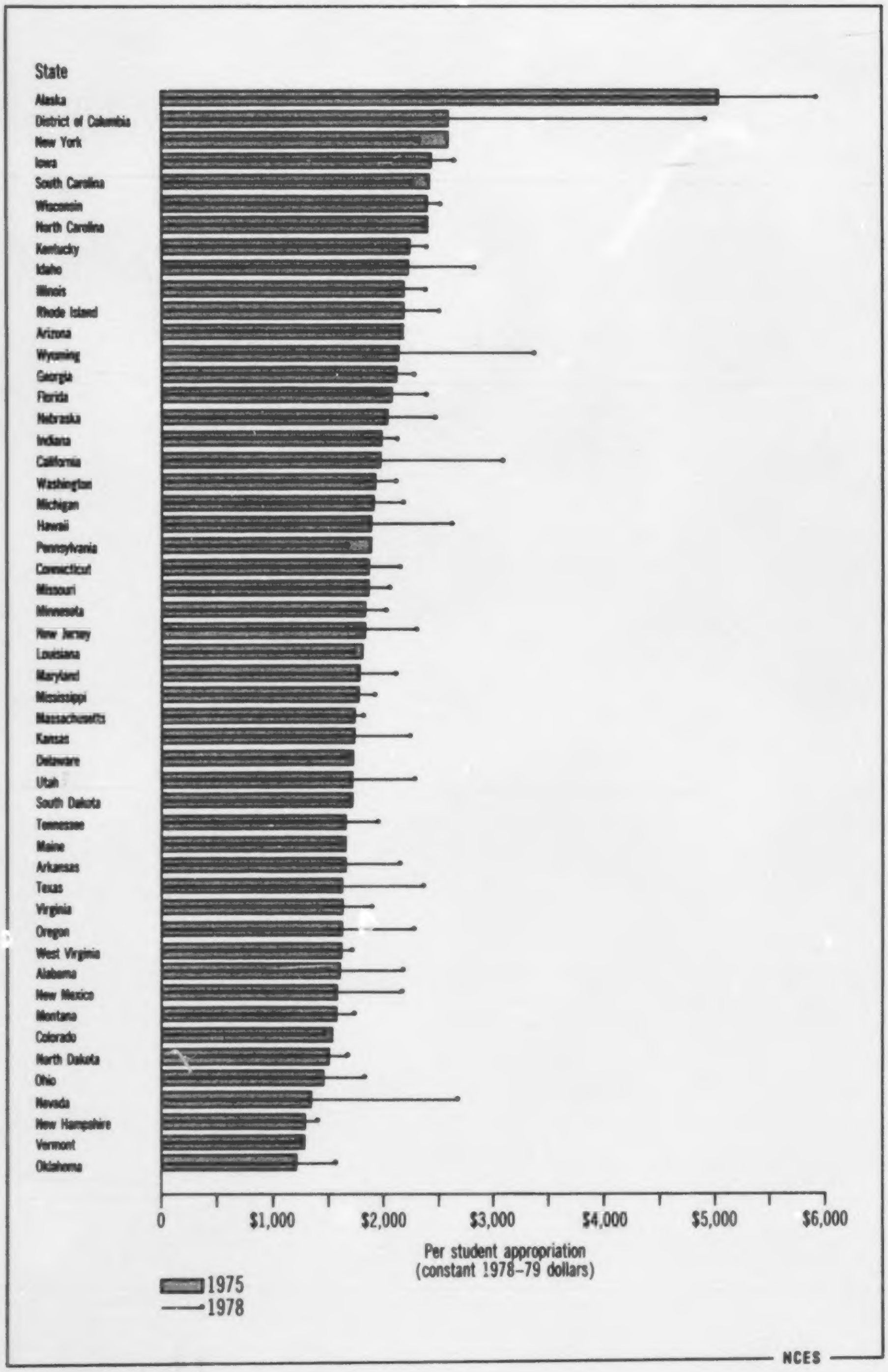

Table 4.10
Current revenue from private gifts, grants and contracts by control of institution: Aggregate United States, 1969 to 1978

Control	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
	Fiscal year									
	(Amount in thousands)									
Public										
Current dollars	$267,338	$317,232	$359,492	$393,865	$449,939	$503,777	$558,542	$617,962	$684,409	$775,927
Constant 1978–79 dollars	**513,850**	**575,649**	**620,339**	**656,022**	**720,307**	**740,300**	**739,063**	**763,554**	**799,347**	**849,097**
Private										
Current dollars	765,223	814,600	868,707	964,026	1,010,232	1,081,615	1,188,988	1,301,285	1,422,754	1,554,441
Constant 1978–79 dollars	**1,470,835**	**1,478,173**	**1,499,041**	**1,605,582**	**1,617,280**	**1,589,433**	**1,573,269**	**1,607,868**	**1,661,492**	**1,701,025**

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Financial Statistics of Institutions of Higher Education, 1969–78.*

Chart 4.10
Revenue from Private Gifts, Grants, and Contracts

Revenue from private gifts, grants, and contracts increased 65 percent at public institutions and 16 percent at private schools between 1969 and 1978, after adjustment for inflation.

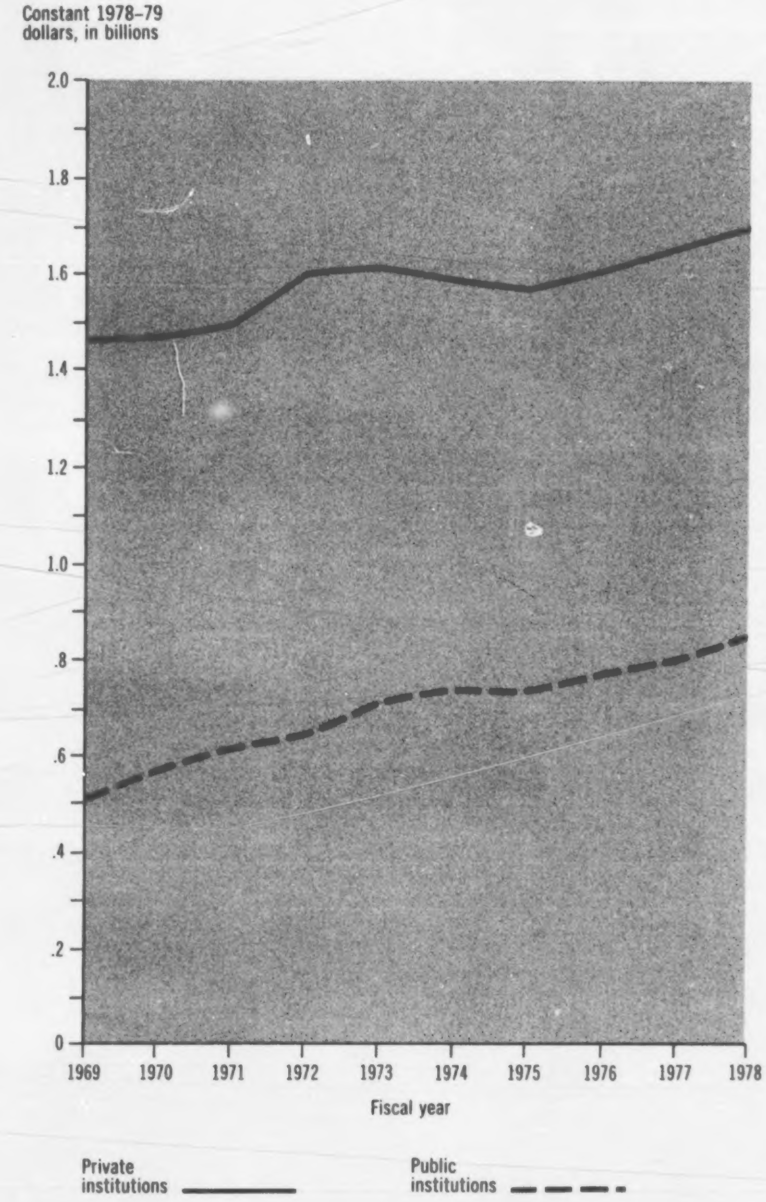

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Table 4.11
Voluntary support to higher education, compared with current expenditures: Fiscal year 1972 to 1978

Fiscal year	Enrollment (in millions)	Total higher education expenditures in constant 1978–79 dollars (in millions)	Total voluntary support to higher education			Constant 1978–79 dollars	
			Current dollars (in millions)	Constant 1978–79 dollars (in millions)	Percent of total expenditures	Per student expenditures	Per student voluntary support
1972 . . .	9.0	$42,836	$2,020	$3,400	7.9	$4,760	$377.8
1973 . . .	9.3	45,053	2,240	3,600	8.0	4,844	387.1
1974 . . .	9.7	45,431	2,240	3,300	7.3	4,684	340.2
1975 . . .	10.3	46,709	2,160	2,900	6.2	4,535	281.6
1976 . . .	11.3	48,374	2,410	3,000	6.2	4,281	265.5
1977 . . .	11.1	50,068	2,670	3,100	6.2	4,511	279.3
1978 . . .	11.4	50,248	3,040	3,300	6.6	4,408	289.5

SOURCE: Council for Financial Aid to Education, *Voluntary Support of Education, 1977–78*, 1978 and U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Financial Statistics of Institutions of Higher Education; Fall Enrollment in Higher Education, various years.*

Chart 4.11
Voluntary Support and Higher Education Expenditures

As enrollment increased between 1972 and 1978, both per student expenditures and per student voluntary support decreased, when adjusted for inflation.

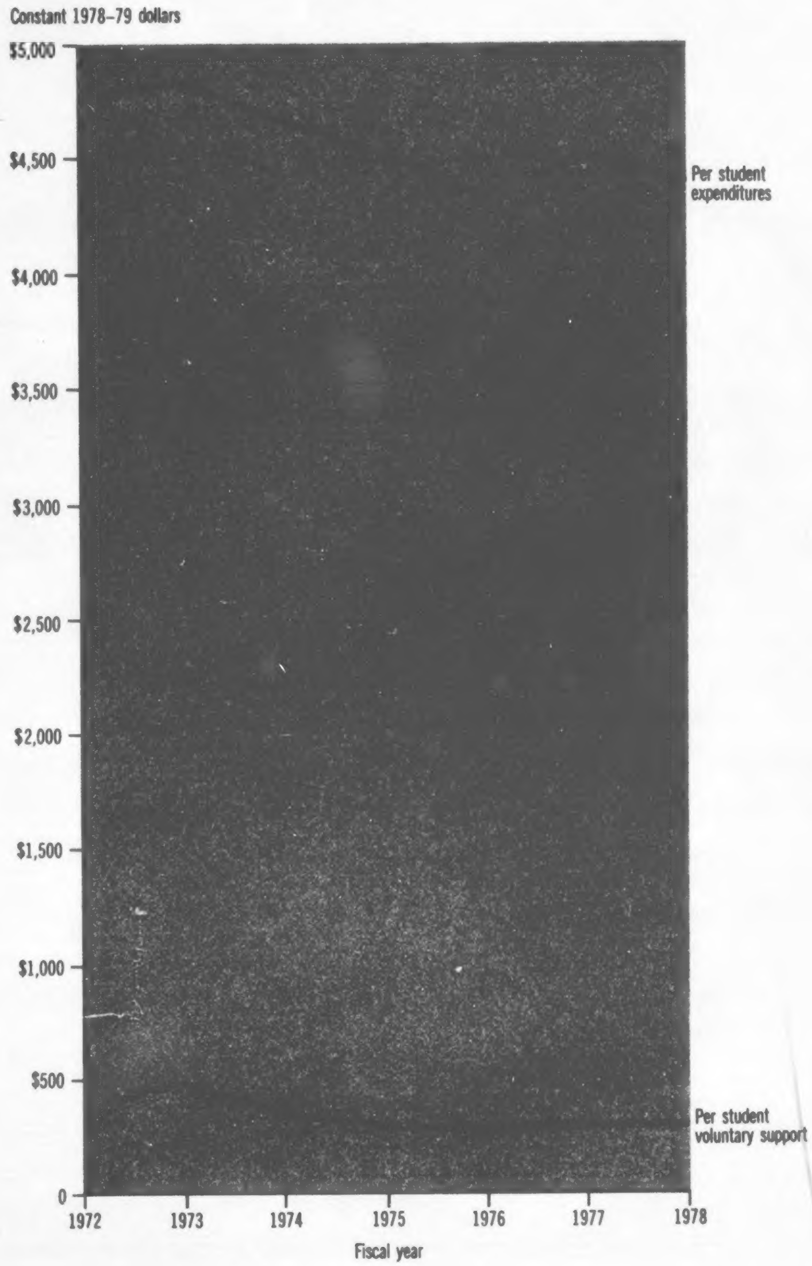

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Table 4.12
Estimated voluntary support to higher education, by source and purpose: Fiscal year 1975 to 1978

Item	1975			1976			1977			1978		
	Current dollars	Constant 1978–79 dollars	Percentage distribution	Current dollars	Constant 1978–79 dollars	Percentage distribution	Current dollars	Constant 1978–79 dollars	Percentage distribution	Current dollars	Constant 1978–79 dollars	Percentage distribution
						(Dollars, in millions)						
Total voluntary support	$2,160	$2,858	100.0	$2,410	$2,977	100.0	$2,670	$3,118	100.0	$3,040	$3,327	100.0
By source:												
Alumni	486	643	22	588	726	24	638	745	24	714	781	23
Nonalumni individuals	516	682	24	569	703	24	646	754	24	766	838	25
Foundations	497	657	23	549	678	23	558	652	21	623	682	20
Business corporations	357	472	17	379	468	16	446	521	17	508	556	17
Religious denominations	112	148	5	130	160	5	136	159	5	158	173	5
Other	192	254	9	195	240	8	246	287	9	271	297	9
Total voluntary support	$2,160	$2,858	100.0	$2,410	$2,977	100.0	$2,670	$3,118	100.0	$3,040	$3,327	100.0
By purpose:												
Unrestricted	695	920	32	786	971	33	865	1,010	32	934	1,022	31
Physical plant	335	443	16	371	458	15	430	502	16	447	489	15
Research	324	429	15	354	437	15	398	465	15	480	525	16
Student aid	287	380	13	330	408	14	342	399	13	429	469	14
Faculty compensation	136	180	6	157	194	7	166	194	6	185	202	6
Other	382	505	18	412	509	17	469	548	18	565	618	19

SOURCE: Council for Financial Aid to Education, *Voluntary Support of Education, 1977–78.*

Chart 4.12
Sources of Voluntary Support

Individual and corporate contributions showed the steadiest increase between 1975 and 1978.

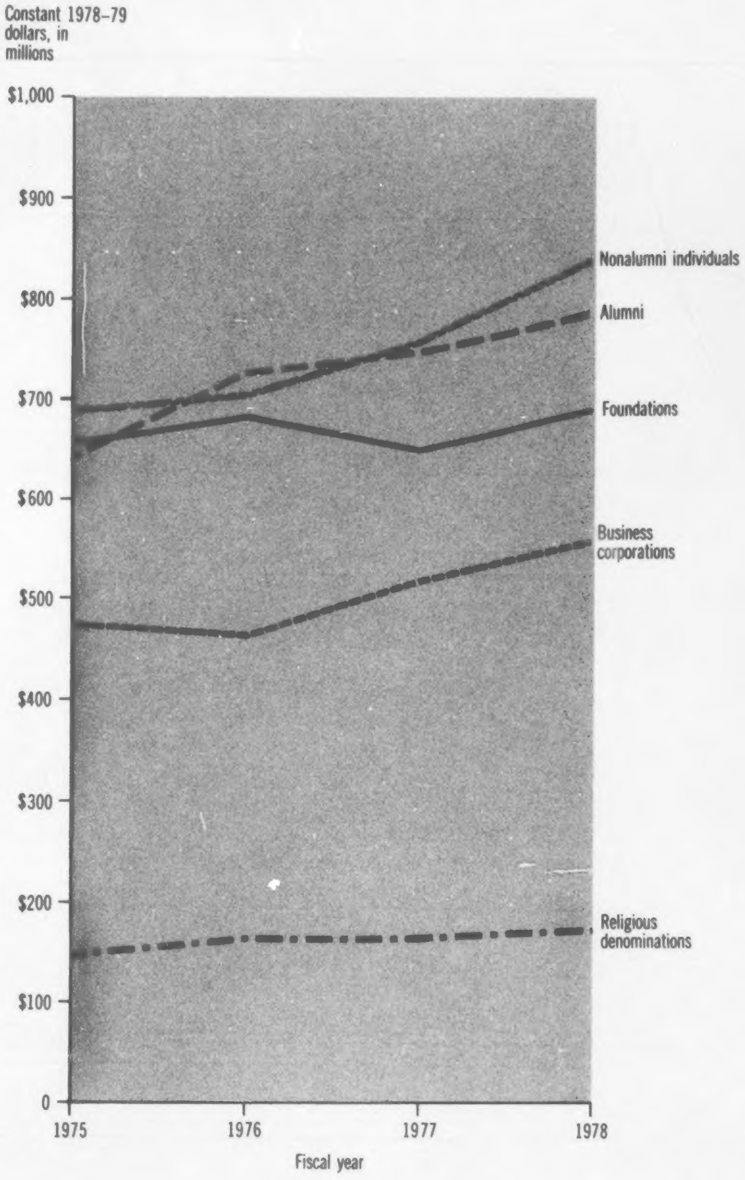

Table 4.13
Beneficiaries of corporate philanthropy, by industrial sector: 1977

Industrial sector	Number of companies in survey	Total amount, in thousands	Percentage distribution					
			Total	Health and welfare	Higher education	Other education	Civil and other	Culture and art
			Percentage distribution					
Total: All companies	772	555,814	**100.0**	**38.1**	**25.8**	**9.9**	**17.2**	**8.9**
Total: Manufacturing	388	387,105	**100.0**	**33.9**	**28.0**	**12.2**	**17.4**	**8.4**
Chemicals	42	$58,612	100.0	32.5	31.5	12.7	15.5	7.7
Electrical machinery	44	59,102	100.0	39.4	32.1	9.7	13.3	5.4
Fabricated metals	38	10,048	100.0	46.0	26.2	3.2	16.7	7.9
Food, beverage and tobacco	36	26,393	100.0	36.0	29.2	7.7	17.3	9.8
Machinery, non-electrical	49	21,015	100.0	43.2	24.5	11.6	15.4	5.1
Mining	11	3,776	100.0	27.3	34.3	16.1	15.8	6.5
Paper	29	22,725	100.0	26.8	16.1	6.0	46.9	4.2
Petroleum and gas	25	71,192	100.0	21.7	30.3	15.6	17.7	14.7
Pharmaceuticals	15	16,352	100.0	25.3	32.8	16.1	22.0	3.7
Primary metals	18	24,808	100.0	42.0	30.8	8.5	8.4	10.2
Printing and publishing	10	3,940	100.0	32.1	22.3	12.0	17.5	16.1
Rubber	10	6,274	100.0	50.8	24.2	8.9	13.5	2.7
Stone, clay and glass	18	8,170	100.0	46.0	23.3	8.8	12.9	8.9
Textiles	20	9,739	100.0	31.9	18.5	20.8	23.2	5.5
Transportation equipment	23	44,959	100.0	38.6	22.7	16.6	14.6	7.4
Total: Nonmanufacturing	384	168,709	**100.0**	**47.5**	**20.3**	**5.2**	**16.8**	**10.1**
Banking	102	37,394	100.0	49.4	19.5	3.6	17.0	10.4
Business services	17	6,209	100.0	35.0	31.6	7.3	17.2	8.9
Finance	17	3,838	100.0	48.8	20.8	8.5	14.8	7.1
Insurance	117	33,318	100.0	43.1	24.7	6.8	17.0	8.2
Merchandising	26	33,948	100.0	55.1	12.3	3.9	17.6	11.1
Telecommunications	19	26,171	100.0	42.8	20.1	6.7	14.6	15.8
Transportation	12	5,536	100.0	43.0	19.0	5.9	23.8	8.1
Utilities	74	22,295	100.0	50.3	22.2	4.9	16.1	6.4

NOTE: Details may not add to totals because of rounding.

SOURCE: The Conference Board, Inc., *Annual Survey of Corporate Contributions, 1977*, 1979.

Chart 4.13
Beneficiaries of Corporate Philanthropy

Health and welfare and higher education received the greatest proportion of corporate contributions in 1977.

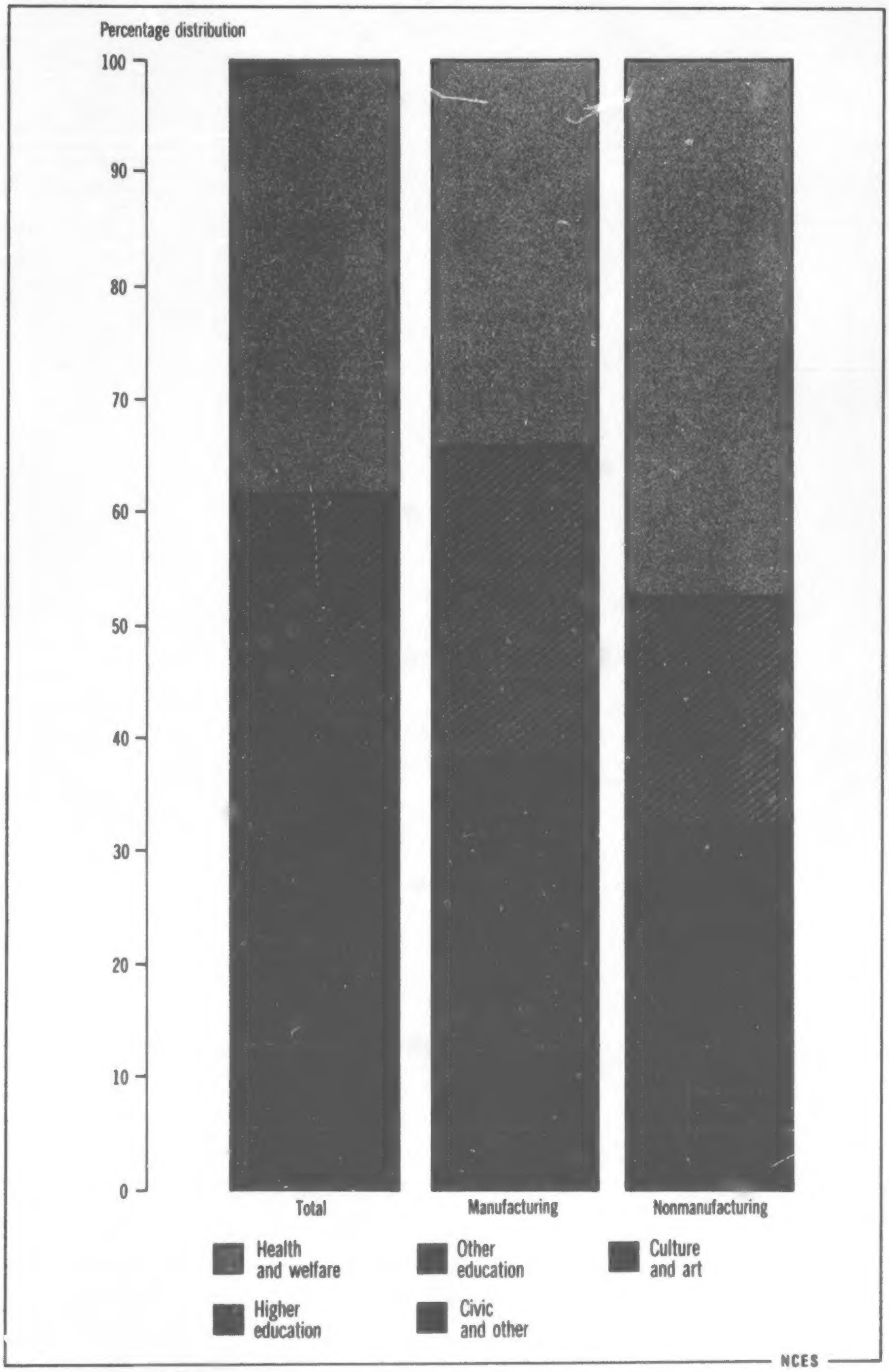

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Table 4.14
Current revenue from endowment income, by control of institution: Aggregate United States, 1969 to 1978

Control	Fiscal year									
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
	(Amount in thousands)									
Public										
Current dollars	$59,796	$69,438	$69,469	$66,405	$76,987	$89,687	$107,078	$97,461	$98,580	$128,796
Constant 1978–79 dollars	**114,934**	**126,002**	**119,876**	**110,604**	**123,248**	**131,795**	**141,686**	**120,423**	**115,122**	**140,941**
Private										
Current dollars	414,389	446,654	473,490	494,657	524,646	578,413	611,427	590,575	666,581	703,490
Constant 1978–79 dollars	**796,497**	**810,498**	**817,054**	**823,901**	**839,906**	**849,978**	**809,040**	**729,714**	**778,433**	**769,829**

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Financial Statistics of Institutions of Higher Education*, 1969–78.

Chart 4.14
Revenue from Endowment Income

Private institutions received 5 times more revenue from endowment income than public institutions. Revenue from this source at private institutions peaked in 1974.

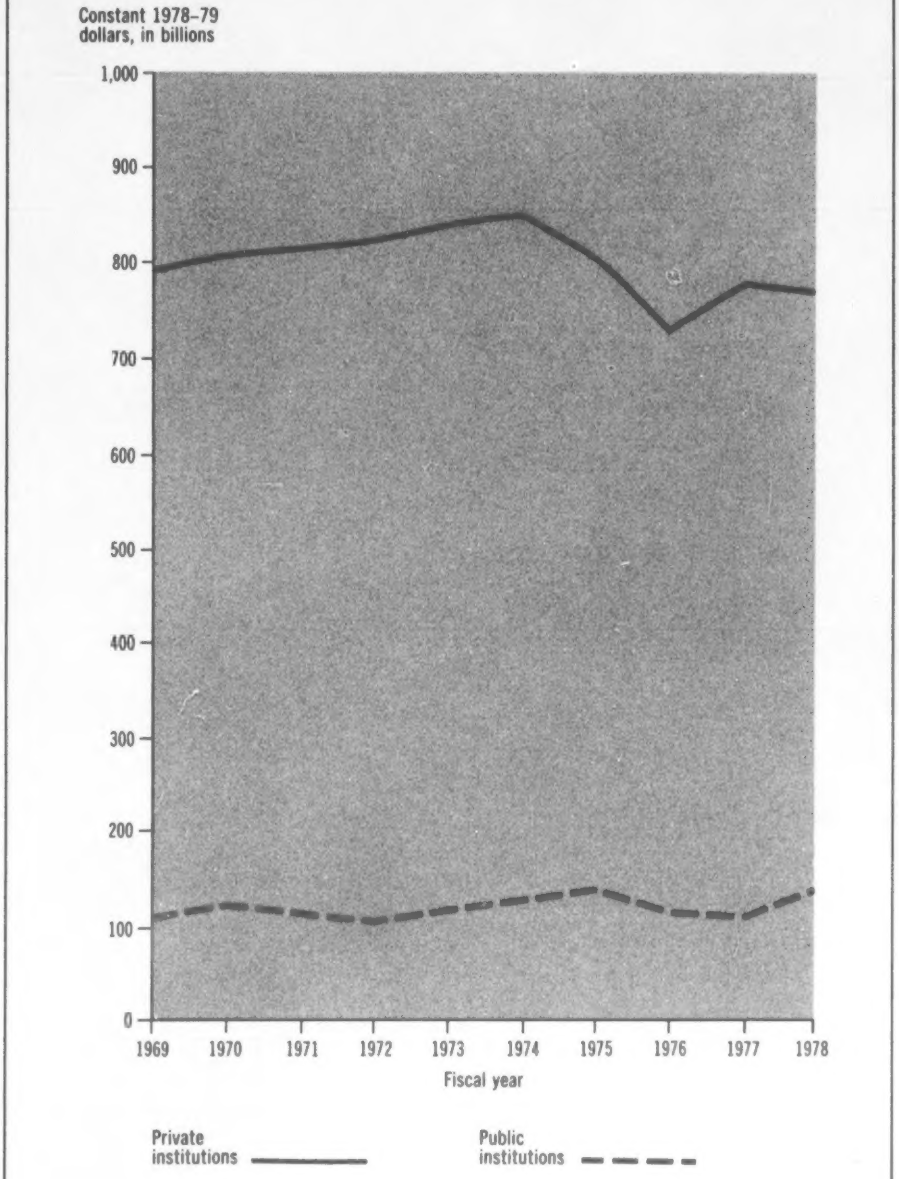

Table 4.15
Institutions reporting a loss in the market value of endowment by control and level of institution: Fiscal years 1976 to 1978

Control and level	Fiscal year 1976: Number of institutions	1976: Average percentage[1] loss	1977: Number of institutions	1977: Average percentage[1] loss	1978: Number of institutions	1978: Average percentage[1] loss
Public						
Universities	9	1.7	15	4.0	27	2.5
Other 4-year institutions	16	11.8	34	.7	74	2.3
2-year institutions	23	20.1	24	4.5	27	8.1
Private						
Universities	3	1.7	13	4.2	18	1.5
Other 4-year institutions	154	8.4	183	4.8	298	4.1
2-year institutions	28	14.3	19	1.0	25	6.2

[1] Percentage loss is the percentage difference in market value reported at the beginning of the year and the market value reported at the end of the year.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 4.15
Number of Institutions Reporting Loss of Endowment Market Value

The greatest number of schools reporting a loss of endowment market value were private 4-year institutions.

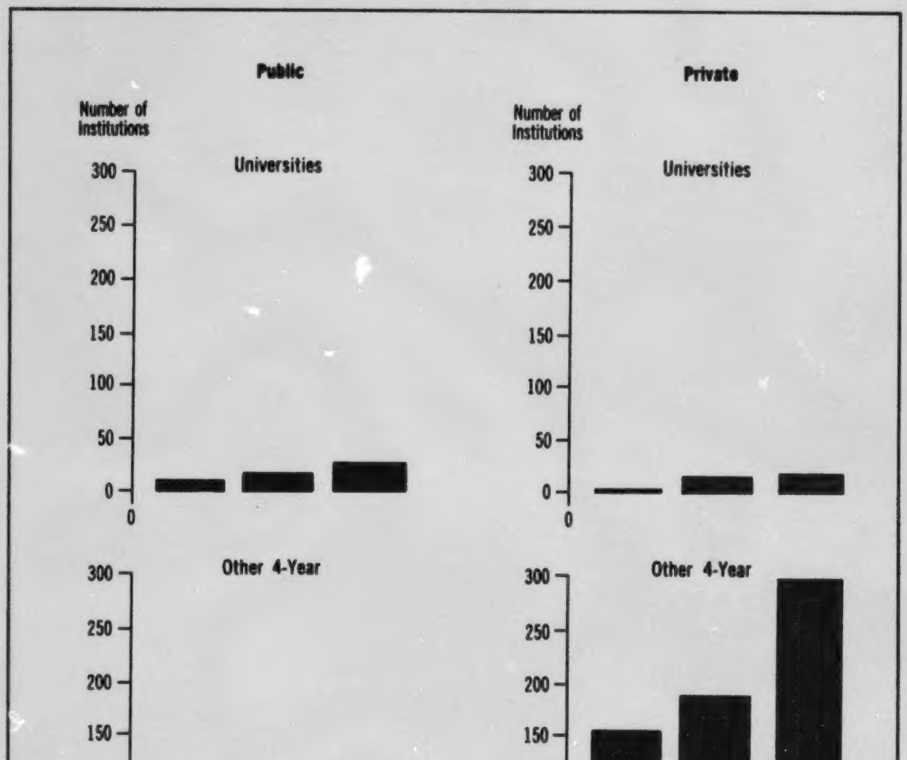

Table 4.16
Institutions reporting current fund expenditures greater than current fund revenues, by control and level: Fiscal years 1976 to 1978

Control and level	Fiscal year 1976		1977		1978	
	Number of institutions with shortfall[1]	Average shortfall[2]	Number of institutions with shortfall[1]	Average shortfall[2]	Number of institutions with shortfall[1]	Average shortfall[2]
Public						
Universities	18	([3])	19	2	15	2
Other 4-year institutions	110	1	110	2	141	4
2-year institutions	184	3	232	4	355	4
Private						
Universities	15	([3])	16	1	15	1
Other 4-year institutions	482	4	468	5	662	5
2-year institutions	80	7	86	9	117	10

[1] A shortfall exists when total fund expenditures are greater than current fund revenues.
[2] Average shortfall is expressed as a percent of total current expenditure.
[3] Less than 0.5 percent.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

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Chart 4.16
Institutions Reporting Current Expenditure Exceeding Current Revenue

Other 4-year institutions in the private sector represented the greatest number of schools reporting current expenditures greater than current revenues.

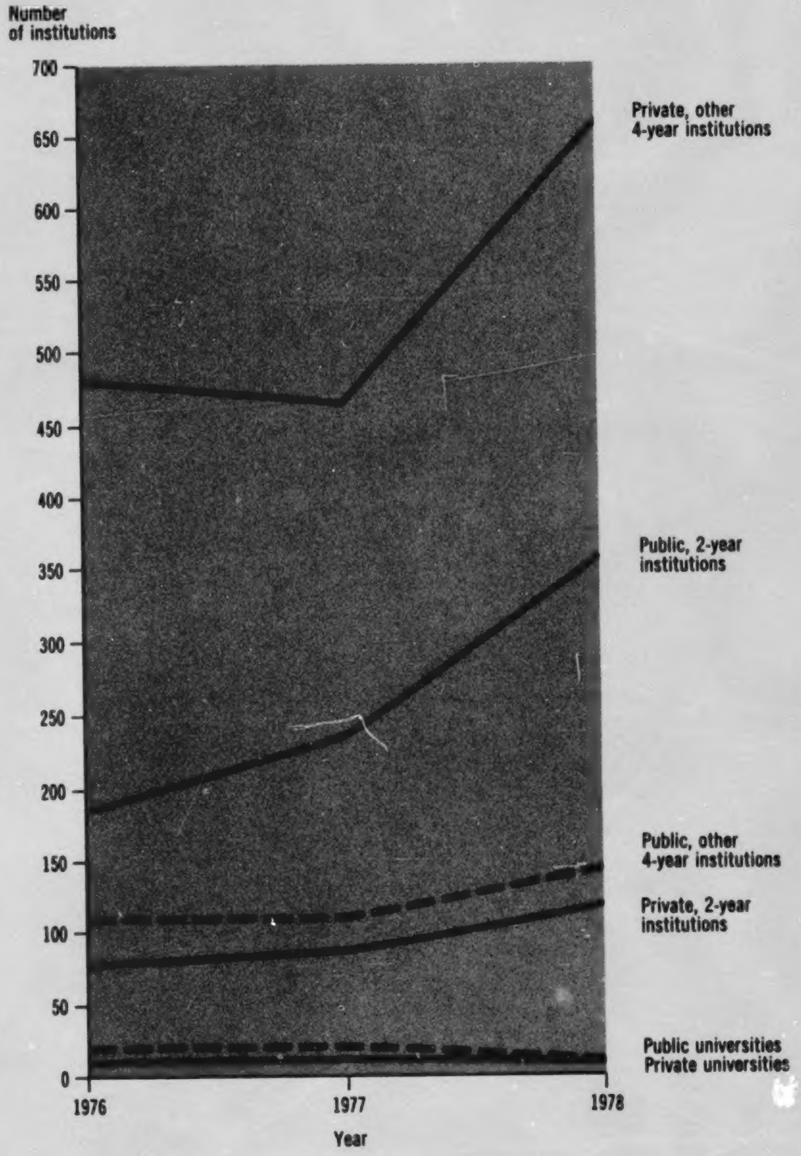


Table 4.17
Average college budget and sources of support, by institutional budget category and parental income: 1978

Budget category	Parental income													
	$0-$6,000		$6001-$12,000		$12,001-$18,000		$18,001-$24,000		$24,001-$30,000		$30,000 or more		Financially independent applicants	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
$0-$2,500														
Average budget[1]	$1,656	100.0	$1,718	100.0	$1,900	100.0	$2,017	100.0	$1,926	100.0	$2,063	100.0	$1,529	100.0
Expected family contribution[2]	209	12.6	349	20.3	521	27.4	872	43.2	1,104	57.3	579	28.1	77	5.0
BEOG[3]	834	50.4	791	46.0	566	29.8	235	11.7	138	7.2	294	14.3	612	40.0
SEOG[4]	87	5.3	80	4.7	34	1.8	14	.7	3	.2	101	4.9	27	1.8
NDSL[5]	32	1.9	58	3.4	72	3.8	163	8.1	146	7.6	43	2.1	42	2.7
CWS[6]	126	7.6	103	6.0	151	7.9	119	5.9	152	7.9	54	2.6	75	4.9
$2,501-$3,000														
Average budget	2,781	100.0	2,754	100.0	2,765	100.0	2,747	100.0	2,783	100.0	2,740	100.0	2,735	100.0
Expected family contribution	374	13.4	548	19.9	840	30.4	1,262	45.9	1,179	42.4	359	13.1	209	7.6
BEOG	942	33.9	856	31.1	410	14.8	175	6.4	34	1.2	0	.0	520	19.0
SEOG	42	1.5	76	2.7	62	2.2	40	1.5	12	.4	0	.0	67	2.4
NDSL	103	3.7	110	3.9	182	6.6	187	6.8	170	6.1	47	1.7	97	3.5
CWS	456	16.4	313	11.1	294	10.6	396	14.4	113	4.1	29	1.1	341	12.5
$3,001-$4,000														
Average budget	3,451	100.0	3,485	100.0	3,442	100.0	3,459	100.0	3,556	100.0	3,602	100.0	3,619	100.0
Expected family contribution	347	10.1	507	14.5	760	22.1	1,263	36.5	1,852	52.1	1,908	53.0	229	6.3
BEOG	1,103	32.0	870	25.0	464	13.5	105	3.0	39	1.1	27	.7	545	15.1
SEOG	140	4.1	178	5.1	183	5.3	96	2.8	72	2.0	13	.4	186	5.1
NDSL	213	6.2	241	6.9	271	7.9	357	10.3	261	7.3	58	1.6	276	7.6
CWS	334	9.7	267	7.7	243	7.1	208	6.0	146	4.1	87	2.4	331	9.1
$4,001-$5,000														
Average budget	4,560	100.0	4,571	100.0	4,490	100.0	4,550	100.0	4,514	100.0	4,535	100.0	4,448	100.0
Expected family contribution	564	12.4	680	14.9	825	18.4	1,579	34.7	793	17.6	1,884	41.5	563	12.7
BEOG	1,176	25.8	896	19.6	459	10.2	115	2.5	0	.0	0	.0	693	15.6
SEOG	275	6.0	236	5.2	301	6.7	107	2.4	29	.6	22	.5	125	2.8
NSDL	368	8.1	334	7.3	553	11.9	354	7.8	196	4.3	146	3.2	346	7.8
CWS	420	9.2	355	7.8	276	6.1	331	7.3	169	3.7	88	1.9	355	8.0
$5,001-$6,000														
Average budget	5,460	100.0	5,436	100.0	5,439	100.0	5,416	100.0	5,502	100.0	5,476	100.0	5,446	100.0
Expected family contribution	706	12.9	807	14.8	1,043	19.2	1,522	14.8	2,671	48.5	2,861	52.2	603	11.1
BEOG	924	16.9	782	14.4	319	5.9	77	.7	26	.5	16	.3	620	11.4
SEOG	86	1.6	242	4.5	190	3.5	203	1.9	94	1.7	51	.9	117	2.1
NSDL	374	6.8	409	7.5	354	6.5	457	4.2	264	4.8	185	3.4	226	4.1
CWS	260	4.8	319	5.9	331	6.1	333	3.1	210	3.8	164	3.0	264	4.8
Over $6,000														
Average budget	7,592	100.0	7,754	100.0	7,152	100.0	7,300	100.0	7,433	100.0	7,706	100.0	7,315	100.0
Expected family contribution	1,048	13.8	2,151	27.7	1,566	21.9	2,808	38.5	3,499	47.1	5,533	71.8	1,627	22.2
BEOG	978	12.9	413	5.3	225	3.1	83	1.1	63	.8	0	.0	667	9.1
SEOG	287	3.8	237	3.1	155	2.2	177	2.4	61	.8	7	.1	190	2.6
NDSL	645	8.5	542	7.0	624	8.7	604	8.3	481	6.5	180	2.3	351	4.8
CWS	273	3.6	275	3.5	369	5.2	247	3.4	190	2.6	94	1.2	291	4.0

[1] Average budget is determined by the individual institution based on tuition and fees, room and board, transportation, and miscellaneous expenditures. It is designed to serve as a measure of total cost. Postsecondary proprietary institutions are included.

[2] Expected family contribution is based on a family contribution schedule that reflects the economic strength of the family resulting from a combination of income, assets, and number of college age children.

[3] Basic Educational Opportunity Grant.

[4] Supplemental Educational Opportunity Grant.

[5] National Direct Student Loan.

[6] College Work Study.

NOTE: Data shown are average offerings of Federal financial aid programs. Data are based on a survey of undergraduate financial aid applicants and do not account for unreported income from loans, work, or contributions from other sources.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Evaluation and Dissemination, unpublished data.

Chart 4.17
Expected Family Contribution of Financial Aid Applicants

The proportion of the total cost contributed by a student's family generally increases with higher parental income.

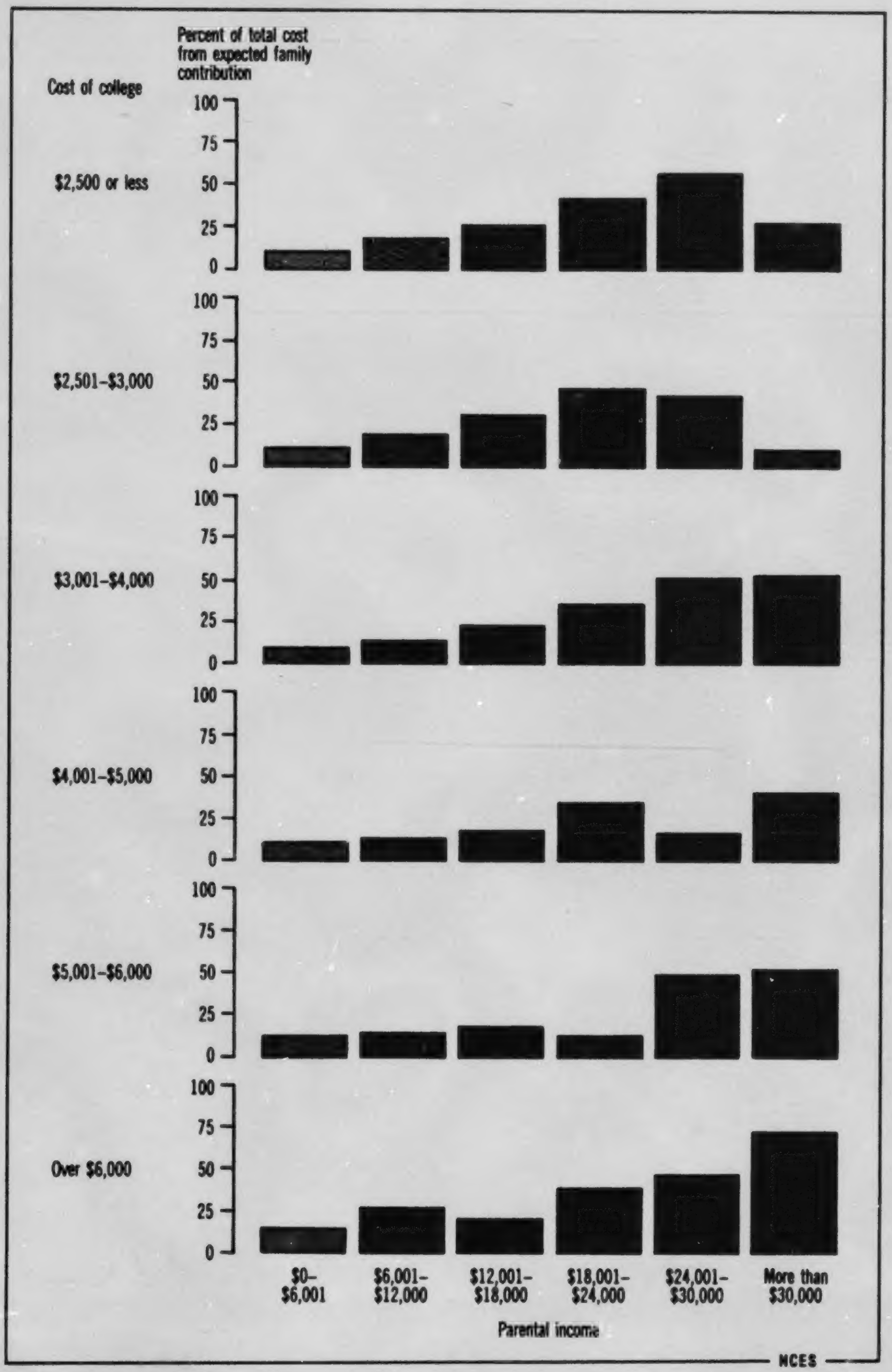


Table 4.18

Federal student financial assistance programs, by fiscal appropriation and number of recipients: Fiscal year 1973 to 1979

Program	1973	1974	1975	Fiscal year 1976	1977	1978	1979
				(In thousands)			
Basic Educational Opportunity Grant:							
Appropriation current dollars	$122,100	$475,000	$660,000	$1,526,000	$1,673,000	$2,140,000	$2,435,000
Appropriation, constant 1979 dollars	$195,470	$698,013	$873,312	$1,885,526	$1,953,729	$2,341,802	$2,435,000
Number of recipients[1]	NA	177,162	573,403	1,268,000	1,863,990	1,700,000	2,700,000
Supplemental Educational Opportunity Grant:							
Appropriation current dollars	$122,100	$475,000	$660,000	$1,526,000	$1,673,000	$2,140,000	$2,435,000
Appropriation, constant 1979 dollars	$336,669	$309,036	$317,965	$296,659	$292,059	$295,563	$340,100
Number of recipients[1]	331,541	395,958	400,000	447,000	499,034	507,062	614,700
College Work Study:							
Appropriation current dollars	$270,200	$270,200	$420,000	$390,000	$390,000	$435,000	$550,000
Appropriation, constant 1979 dollars	$432,563	$397,059	$555,744	$481,884	$455,442	$476,021	$550,000
Number of recipients[1]	567,000	570,000	575,000	973,000	845,275	855,000	972,545
National Direct Student Loan Program:							
Appropriation current dollars	$286,000	$286,000	$321,000	$321,000	$310,500	$310,500	$310,500
Appropriation, constant 1979 dollars	$457,857	$420,277	$424,747	$396,628	$362,602	$339,780	$310,500
Number of recipients[1]	635,457	667,097	628,000	799,000	795,134	883,181	862,058

NA Not available.

[1] Numbers may contain duplicated counts caused by program overlap.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Planning and Budgeting and Division of Quality Assurance, *Bureau of Student Financial Assistance Program Book*, July 1979.

Chart 4.18
Recipients and Appropriations of Federal Financial Assistance Programs

Student participation in four federally financed aid programs increased between 1973 and 1979. The greatest increase in spending occurred in the BEOG program. By 1977, more than two-thirds of the funding for the four programs was for the BEOG.

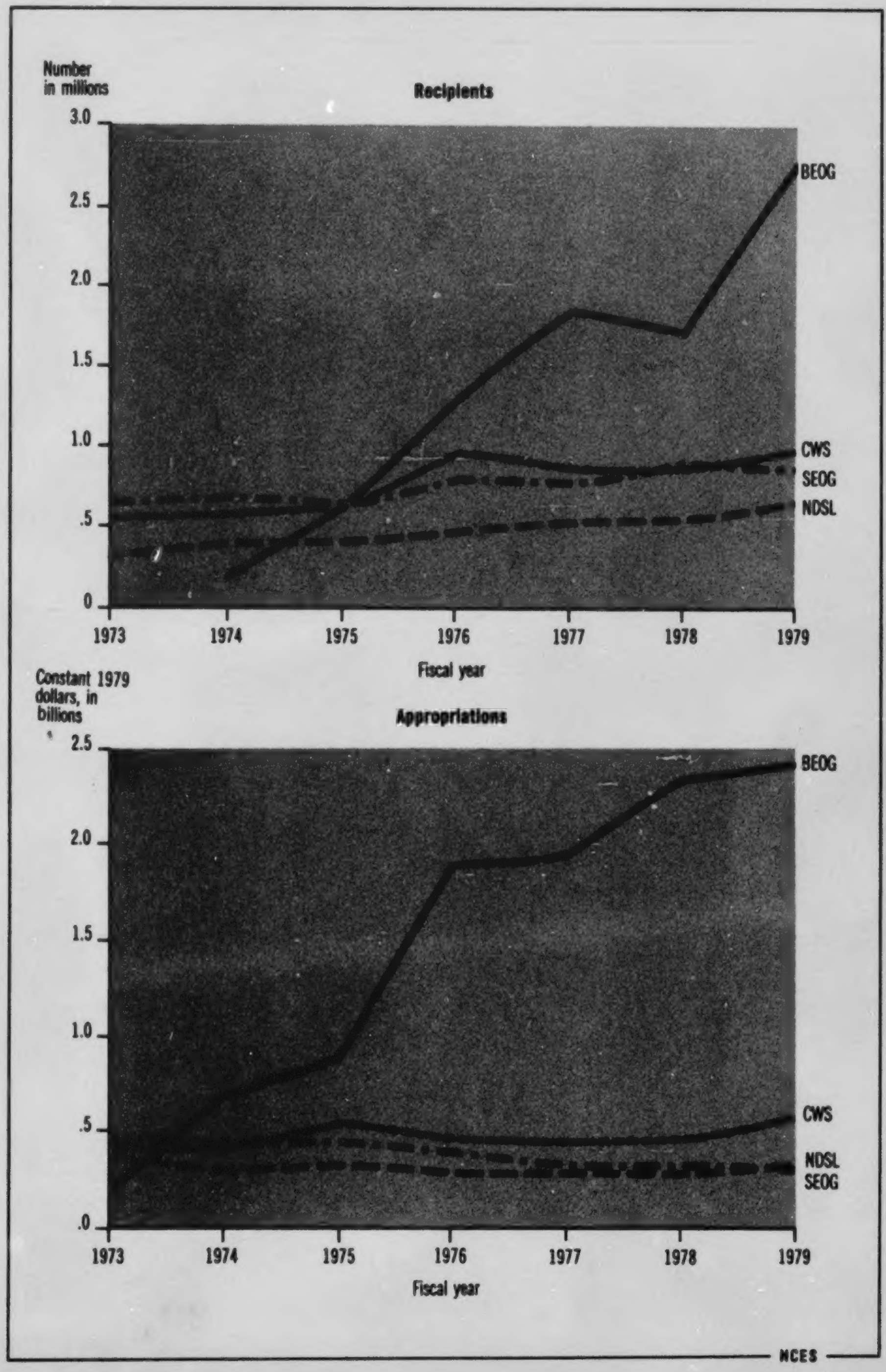


Table 4.19
National Direct Student Loan Program enrollment, financial status, and default rate, by control and type of institution: 1978

Control and type of institution	Number of students	Amount outstanding on loans in default	Matured principal	Default rate (percent)
All institutions	841,181	$702,542,830	$4,044,357,712	17.37
Public	504,995	385,737,143	2,150,883,155	17.93
Universities	332,318	**292,901,539**	1,822,532,666	**16.07**
Other 4-year	45,150	**28,635,291**	140,324,568	**20.40**
2-year	118,592	**58,515,548**	167,405,158	**34.95**
Vocational/technical	1,764	1,031,276	3,716,232	27.75
Other	7,171	**4,653,489**	16,904,531	**27.52**
Private	286,312	$281,459,341	1,783,258,226	15.78
Universities	125,651	**142,754,515**	1,007,880,356	**14.16**
Other 4-year	131,466	**119,279,608**	687,581,489	**17.34**
2-year	21,552	**11,562,353**	43,351,232	**26.67**
Other	7,643	**7,862,865**	44,445,149	**17.69**
Proprietary	48,970	34,419,484	103,963,688	33.10
Other	904	926,862	6,252,643	14.82

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Student Financial Assistance, unpublished tabulations.

Chart 4.19
Loan Default in the National Direct Student Loan Program

Two-year and noncollegiate postsecondary institutions had the highest default rates while public universities accounted for the largest dollar sum of loans in default.

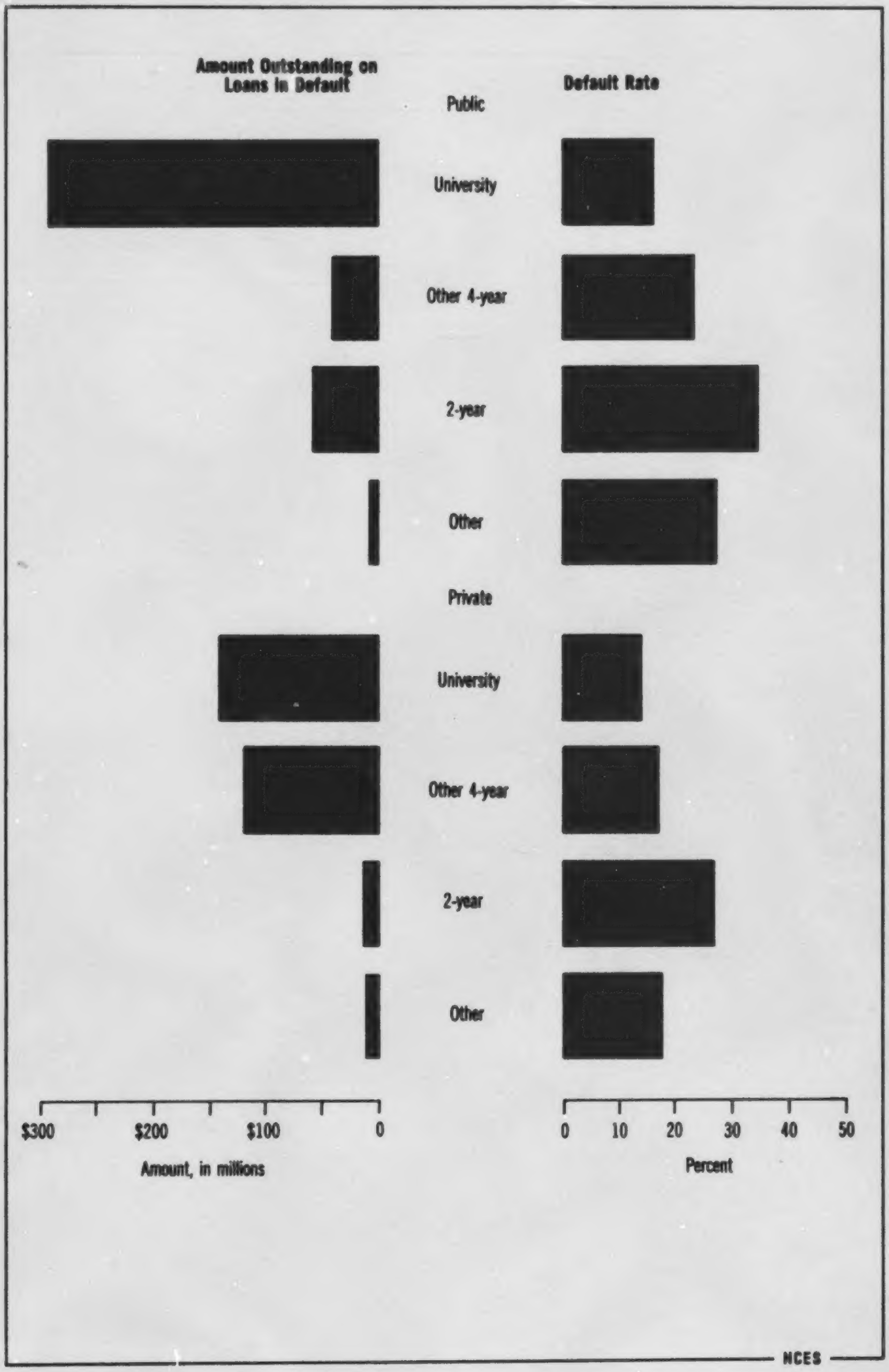


Table 4.20
Student loans per full-time-equivalent student provided by government agencies, by program and State; 1977–78

State	Average cost of attendance[1]	Federally Insured Student Loan	National Direct Student Loan	State agency loan[2]	Sum of loans	Percent of loan support by State agency
50 States and D.C.	$3,506	$57	$37	$179	**$273**	**65.4**
Alabama	3,145	105	35	0	**140**	**.0**
Alaska	3,372	0	19	25	**44**	**56.8**
Arizona	2,922	132	29	0	**161**	**.0**
Arkansas	3,044	2	36	107	**145**	**74.0**
California	3,002	66	28	0	**94**	**.0**
Colorado	3,538	96	35	0	**130**	**.0**
Connecticut	3,980	109	32	1,085	**1,226**	**88.5**
Delaware	3,683	0	32	187	**219**	**85.4**
District of Columbia	4,297	122	23	0	**145**	**.0**
Florida	3,380	167	31	0	**198**	**.0**
Georgia	3,360	0	37	128	**165**	**77.5**
Hawaii	2,887	148	32	0	**180**	**.0**
Idaho	2,932	73	32	0	**104**	**.0**
Illinois	3,580	42	30	199	**271**	**73.2**
Indiana	3,731	119	36	63	**218**	**28.9**
Iowa	3,830	292	36	0	**328**	**.0**
Kansas	3,160	4	35	254	**294**	**86.5**
Kentucky	3,234	116	39	0	**155**	**.0**
Louisiana	3,104	2	35	66	**103**	**63.7**
Maine	3,844	0	37	301	**337**	**89.1**
Maryland	3,599	17	29	125	**172**	**73.0**
Massachusetts	4,470	63	35	284	**381**	**74.5**
Michigan	3,571	0	32	179	**212**	**84.4**
Minnesota	3,499	1	42	419	**462**	**90.8**
Mississippi	3,086	99	36	0	**135**	**.0**
Missouri	3,587	116	34	0	**150**	**.0**
Montana	3,025	169	37	0	**206**	**.0**
Nebraska	3,401	393	35	0	**428**	**.0**
Nevada	3,030	0	28	99	**127**	**77.7**
New Hampshire	4,618	50	35	199	**284**	**70.1**
New Jersey	3,743	13	31	591	**636**	**93.0**
New Mexico	3,059	63	36	0	**99**	**.0**
New York	4,174	7	37	561	**605**	**92.8**
North Carolina	3,246	7	34	55	**95**	**57.7**
North Dakota	3,010	495	36	0	**531**	**.0**
Ohio	3,816	0	33	183	**217**	**84.4**
Oklahoma	2,988	2	41	83	**126**	**66.1**
Oregon	3,304	1	32	114	**147**	**77.7**
Pennsylvania	4,306	7	35	544	**586**	**92.9**
Rhode Island	4,275	44	33	238	**315**	**75.6**
South Carolina	3,208	8	37	19	**63**	**29.9**
South Dakota	3,625	547	39	0	**586**	**.0**
Tennessee	3,453	9	35	94	**138**	**67.9**
Texas	2,963	93	32	0	**125**	**.0**
Utah	3,143	19	34	64	**117**	**55.0**
Vermont	4,925	22	35	317	**374**	**84.8**
Virginia	3,384	4	31	157	**193**	**81.4**
Washington	3,044	69	33	0	**102**	**.0**
West Virginia	2,972	131	32	0	**163**	**.0**
Wisconsin	3,447	1	36	308	**344**	**89.5**
Wyoming	3,067	116	33	0	**150**	**.0**

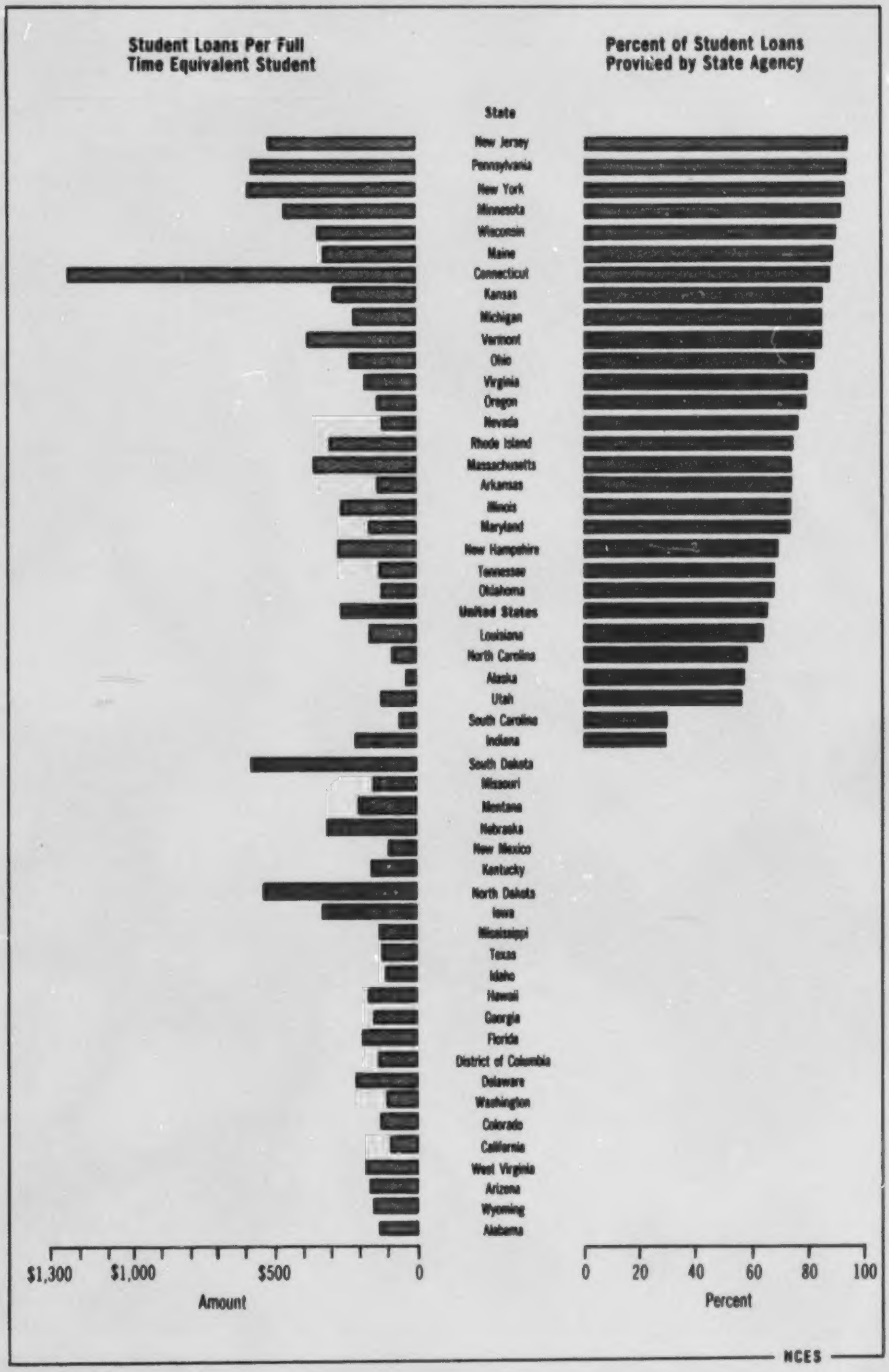
[1] The cost of attendance is calculated by using a national estimate of all noninstructional expenses for a student residing in campus housing, weighted by institutional sector and added to a tuition and fees estimate.

[2] Zeros indicated no State loan authority exists.

SOURCE: William D. Hyde, Jr., Education Finance Center, Education Commission of the States, *Papers in Education Finance*, "State Guarantee Agencies and Capital Availability for Student Loans", July 1979.

Chart 4.20
Average Student Loans and Average State Support

The existence of a State educational loan authority does not necessarily increase the available student loan capital.



Chapter 5

Preprimary Education

The anticipated rise in births and the continued participation of women in the labor force suggest that preprimary education will grow in size and importance in the 1980's. This chapter examines formal preprimary programs which provide for the educational needs of preschool children. This focus on formal programs is not to imply that educational needs are not served ordinarily through the family or through informal child care arrangements with relatives or neighbors. The home is the primary setting for learning during a major part of the day for most children of preschool age. Family day care homes estimated to serve over 5 million children also may offer preschool learning in home-like settings. The importance of the family and family-like day care in transmitting and reinforcing learning is not likely to diminish in the near future. However, little data are available from which to construct a national profile on preschooling offered in these settings.

This chapter relies on data currently available on children participating in nursery schools and kindergartens and on facilities offering day care. Participation data have been collected since 1966 through Bureau of the Census household surveys to describe the number and characteristics of 3- to 5-year-olds enrolled in nursery school or kindergarten. Detailed national data on day care centers were collected for the first time in a 1976–77 survey sponsored by the Administration for Children, Youth and Families. The day care center survey describes only a portion of the whole preprimary sector. Because the focus of the study was on centers serving the needs of working parents, it excluded part-day nursery schools, part-day Head Start programs, and seasonal child care programs; thus, its findings can not be generalized to all preschools. Despite differences in focus and scope, these household and institutional surveys, when combined with other data sources, provide a national picture of the children served and the programs offered at the preprimary level.

Enrollment in Preprimary Programs

Substantial changes have occurred in recent years in the number and age structure of the school-age population. At the preprimary level, the number of children 3 to 5 years old declined throughout the 1970's. The proportion of 3- to 5-year-olds enrolled in preprimary programs, however, increased appreciably during this period. While less than 30 percent of all children of these ages attended preprimary school in 1966, one-half of these children participated in 1978. Prior to 1976, gains in the rate of participation offset declines in the 3- to 5-year-old population, resulting in enrollment growth (entry 5.1). Following a slight drop between 1975 and 1979, preprimary enrollment is anticipated to rise in the early 1980's as the number of children in this age group grows. At the end of the 1980's, enrollment is expected to approach 7 million children in preprimary programs.

The age distribution of preprimary enrollment reflects varying participation rates of 3-, 4-, and 5-year-olds. In 1978, there were roughly equal numbers of these children, approximately 3 million, in each age group. Twenty-five percent of 3-year-olds, 43 percent of 4-year-olds, and 82 percent of 5-year-olds were enrolled in preprimary programs. Considerable room exists for expansion in enrollment of 3- and 4-year-olds making projections of preprimary enrollment into the mid-1980's tentative. These children have yet to be born and their participation will depend in part upon availability of facilities and upon unanticipated social and economic developments.

Part of preprimary education is administered through the regular public school systems. According to State reporting, more than 2.6 million preschoolers were served by regular public schools in the fall of 1978, mainly at the kindergarten level. The extent to which preprimary schooling is provided by local school districts differs considerably by State. One way to measure this extent is to compare preprimary enrollment to first grade enrollment in public regular schools (entry 5.2). For the Nation as a whole in 1978, the ratio of preprimary to first grade enrollment was 86 preschoolers to 100 first graders. In some States the ratio exceeded 100, indicating that these States provided programs not only for kindergarten children but also for prekindergarten children. In 19 States the ratio was below the National average; these States were located primarily in the South and in parts of the Western Mountain area.

Another segment of preprimary education is provided through an estimated 18,300 day care centers that served approximately 900,000 children in 1976–77. According to the 1976–77 survey of day care facilities, California, Texas, and Florida had the largest number of centers and California, Texas, and New York had the highest enrollments (entry 5.3). Certain other States, notably Georgia, North Carolina, and Mississippi, had enrollments proportionally larger than their population size. Enrollments averaged 49 children per center but they ranged from fewer than 15 children in the smallest centers to more than 300 children in the largest. Centers also differed by their funding status, that is, whether they provided care subsidized by government funds. Centers that received government subsidies comprised about 44 percent of all centers in the Nation but this proportion varied widely by State. Approximately 45 percent of all children enrolled in day care were served by funded centers, although day care for only a portion of these children was government funded. Centers were further distinguished by their legal status, that is, whether they operated for profit. Funded profit-making centers accounted for only 10 percent of all centers. The other three types, non-funded profit-making, funded non-profit, and non-funded non-profit, were of roughly equal size, each accounting for one-quarter to one-third of all centers. Profit-making centers usually were independently operated, while non-profit centers were most often sponsored by various groups (entry 5.4). Among these sponsors for non-profit centers, churches were the most prevalent, followed by community groups and government agencies. Centers sponsored by Head Start and local schools comprised only a small proportion of all day care centers, 4 percent and 3 percent, respectively.

Although the Head Start program represents only a small segment of the whole preprimary area, its impact has been far reaching both on the estimated 7 million children served since its inception and on other preprimary programs. Launched in 1965 as a major policy initiative in the War on Poverty, Head Start was designed to help communities overcome the handicaps of disadvantaged preschool children. To assist in breaking the cycle of poverty, it was developed to provide preschool children from low-income families with a comprehensive program that would meet their educational, social, health, nutritional, and psychological needs. Although intended for children from low-income families, its approach and methods have been adopted by preschools and day care centers serving other children as well. The Head Start program has served about 400,000 preschool children from low-income families each year, or approximately 20 percent of all preschool children living in poverty (entry 5.5). In 1965, the enrollment figure of 561,000 children was higher, but applied only to children attending 8-week summer Head Start programs. Over the years, Head Start gradually converted to full-year programs which rose fairly steadily in enrollment until 1978 when a major program expansion was initiated. In fiscal year 1978, Congress increased the Head Start appropriation by $150 million, enlarging the program to serve approximately 69,800 additional children. Existing Head Start programs were expanded and new programs established in communities previously not served by Head Start.

Characteristics of Participants in Preprimary Programs

One-half of 3- to 5-year-olds were enrolled in preprimary programs in 1978, and a majority of these were enrolled in public programs. The proportion in public programs differed by level. Nursery school enrollment was predominantly nonpublic and kindergarten was predominantly public. About 15 percent of all children attended all day (entry 5.6). Participation in both full-day and part-day programs rose with age; almost 22 percent of all 5-year-olds were enrolled all day and another 60 percent were enrolled part of the day. The high proportion of 5-year-olds in part-day programs relates to the fact that most public school kindergartens, which enroll the majority of 5-year-olds, operate on only a half-day basis.

Employment status of the mother and racial/ethnic and socioeconomic background of the family were related to children's participation in preprimary programs in varying degrees. Only among 3-year-olds was the employment status of the mother clearly associated with preprimary participation in 1978. About 30 percent of 3-year-olds with working mothers attended preschools compared to 19 percent of those whose mothers kept house. The length of time that the child spent in preschool, however, did relate to the employment status of the mother. Although overall participation rates were similar for children whose mothers worked full time and for those whose mothers worked part time, all-day participation was higher among children with full-time working mothers.

The overall participation rates in preprimary programs in 1978 of black children and white children tended to be similar, although the rate of blacks was higher among 3- and 4-year-olds and lower among 5-year-olds (entry 5.7). Both groups were more likely than children of Hispanic origin to be enrolled, although this was not evident among 5-year-olds. Children from households in which the head was highly educated were much more likely to be enrolled in preprimary programs than those with less educated household heads. Almost two-thirds of children with households heads who had gone through college were enrolled in 1978, compared to about 39 percent of children with household heads who had not gone beyond elementary school. These differences in participation rates by educational attainment of the head of the household were most pronounced among 3- and 4-year-olds though the pattern was consistent for 5-year-olds as well. For 3-year-olds, participation rates more than tripled from the lowest to highest level of educational attainment of the household head; for 4-year-olds, participation rates more than doubled. Despite these differences by educational attainment of the household head, there was virtually no difference in overall preprimary participation rates in 1978 by whether the household was male- or female-headed.

Participation in preprimary programs also differed by family income (entry 5.8). Participation in nonpublic preschools tended to rise with higher family income. Greater nonpublic nursery school participation accounted for higher overall participation rates of children from high income families.

An examination of the background characteristics of children and families served by day care centers highlights the unique composition of day care center enrollment and how this composition varies by type of center. Racial minorities, especially blacks, accounted for a relatively high proportion of the children enrolled in day care centers in 1976–77 (entry 5.9). Twenty-eight percent of the children in centers were black, and 9 percent were of other racial minorities. By comparison, minorities accounted for only 18 percent of the 3- to 5-year-old population and 19 percent of the preprimary enrollment in 1977. The representation of minority children varied widely across different types of centers. Non-profit centers receiving government funding, by a wide margin, had the highest proportion of minority group children enrolled. Over one-half of the enrollment in funded non-profit centers was minority, compared to one-fifth to one-third of the children in other types of centers.

Single-parent families and low-income families constituted a high proportion of the families using day care centers in 1976–77. Of families served by day care centers, 38 percent were single-parent families and 30 percent had annual incomes below $6,000. The socioeconomic composition of families varied widely across different types of centers in much the same way as the racial composition of enrollment differed. Funded centers, as a group, and non-profit centers, as a group, served relatively high proportions of single-parent families and families with low incomes. Funded non-profit centers and non-funded profit-making centers represented the two polar cases. At one extreme, over one-half of the families served by funded non-profit centers had incomes below $6,000 per year and less than 10 percent had incomes above $15,000. At the other extreme, only 5 percent of the families served by non-funded profit-making centers had incomes below $6,000 and almost one-half had incomes above $15,000. These differences reflect funding variations in that non-funded profit-making centers depend primarily on parent fees for their operating revenues.

Classrooms and Staff in Day Care Centers

Day care centers differed not only in the composition of enrollment but also in classroom organization and staffing. In an average day care center, the child-staff ratio was 6.8 children per adult, very close to the average set by Federal standards for funded centers (6.3 children per adult) and far below the average ceiling imposed by State licensing standards (12.5 children per adult). About one-third of centers maintained ratios of 5 or fewer children per adult, and about one-half maintained ratios of between 5.1 and 9.1 (entry 5.10). Only 20 percent of centers maintained ratios of more than 9 children per adult. Non-profit centers receiving government funds assigned significantly fewer children to individual caregivers, on the average, than other types of centers. Funded non-profit centers averaged 5.5 children per adult, while the other types of centers maintained very similar child-staff ratios, averaging 7.3 to 7.9 children per adult. The difference in child-staff ratios of about two children per caregiver between funded non-profit centers and other types contributed to significantly higher expenditures in funded non-profit centers.

Federal day care regulations applicable to funded centers and many State day care licensing codes limit the number of children that day care centers can place in a single classroom. These codes often differentiate maximum allowable class size by the age of the children in the room. Most day care centers did differentiate class sizes according to the age of children; average class size was 14 children for 2-year-olds, 17 for 3-year-olds, 19 for 4-year-olds, and 20 for 5-year-olds (entry 5.11). Although child-staff ratios were lower in funded centers, average class size in these centers was slightly higher than in non-funded centers for each age group. Overall, in 80 to 90 percent of the day care center classrooms, the age range of children was less than two years. The frequency of age-mixed classrooms was somewhat higher in profit-making centers than in non-profit centers and somewhat lower in non-funded centers than in funded centers. Across all types of centers, however, the frequency and degree of age-mixing were low.

On the average, funded centers had more staff than non-funded centers, but by far the largest differences occurred between profit and non-profit centers. The average non-profit center had more total staff, more paid staff, more volunteer staff, more classroom staff, and more non-classroom staff than the average profit-making center. Only a part of the variation in number of staff across centers can be attributed to differences in enrollment size. Funded non-profit centers, for example, were about 20 percent larger in terms of enrollment than non-funded profit-making centers but were 60 to 100 percent larger in terms of total staff, paid staff, and classroom staff. Larger staff size in non-profit centers is partially accounted for by volunteers and staff paid by outside agencies, personnel more available to non-profit centers.

Some day care centers had professional specialists on their staff, and many others obtained the services of such specialists from community agencies or on a consulting basis. About 8 percent had a hearing, speech, or vision specialist on staff and a total of 64 percent of centers provided hearing, speech, or vision testing to children (entry 5.12). Eight percent had a staff psychologist, 35 percent had a child development specialist, and 50 percent provided psychological or developmental testing to children. Professional specialists were found most frequently on the staffs of funded non-profit centers.

Classroom staff in day care centers were relatively young, and predominantly female. Two out of every three caregivers on the average were between 18 and 35 years old. Relatively few were under 18 years old, 7 percent, or over 50 years old, 8 percent. Funded centers tended to employ a higher proportion of caregivers under 26 years old than did non-funded centers. For the most part, however, the age and sex distributions of classroom staff were very similar across the four major types of centers.

The racial distribution of classroom staff reflected the racial distribution of enrollment. Among nonprofit centers receiving government funds, both caregivers and children were divided almost equally between whites and minorities. The proportion of minority caregivers and children was significantly lower among other types of centers but close to or above the proportion of minorities in the general population.

The educational attainment of classroom staff in day care centers was relatively high. Twenty-nine percent of caregivers had completed college, about twice the proportion among all employed females. Fifty-four percent of caregivers had some postsecondary education, more than double the percentage among all employed females. Only one-tenth of caregivers had not completed high school, compared to about one-fourth of all female workers. Directors generally completed more years of formal education than other classroom staff, but in terms of averages, the difference was only 1 or 2 years. Consistent with their age distribution, the work experience of most classroom staff in day care centers was 5 years or less. A substantial proportion of caregivers participated in some form of educational or training program while they worked. Sixty-two percent had taken courses, seminars, or in-service training programs within the preceding year. Participation rates were highest among caregivers in funded non-profit centers and lowest in non-funded profit centers. Even in the latter type of center, however, one-half of all classroom staff had participated in some educational/training program within the last year.

Varying by job function, education, and experience, the average salary range for full-time classroom staff was $95 to $138 per week in 1976–77 (entry 5.13). The federal minimum wage computed for a 40-hour work week was $92, indicating that the lowest paid staff earned only slightly more than the minimum wage in 1976–77. The average salary of the highest paid staff was below the median weekly wage of all female full-time wage earners in 1976–77. Funded non-profit centers had the highest average salaries ($102 to $160 per week) and a high average number of paid staff per center. Non-funded centers that operated for profit paid the lowest average salaries, $89 to $118 per week, had the lowest average number of paid staff per center, and consequently had the lowest average annual expenditures for personnel.

Costs of Preprimary Programs

While salaries of day care center staff were low, small ratios of children to staff contributed to relatively high costs in preprimary programs. According to the estimates of parents with children in nonpublic programs, tuition and fees averaged more than $500 annually (entry 5.14). This figure included tuition and fees for part-day as well as full-day programs and did not differ appreciably by level. Although lower income families were less likely to enroll their children in nonpublic programs, those who did often paid as much as families with higher incomes.

Total expenditures for all day care centers were just under $1.3 billion in 1976–77 (entry 5.15). Average expenditures per center ranged from $46,300 in nonfunded profit-making centers to $98,700 in funded non-profit centers. These differences reflected variations in enrollment size, child-staff ratios, and the proportion of expenditures allocated to personnel. When enrollment size is held constant by expressing expenditures per full-time equivalent (FTE) child, funded non-profit centers still spent at least $500 more per child than other types of centers. The average expenditure of $1,630 per FTE child in day care centers was slightly higher than average expenditures per pupil in public elementary/secondary schools in the 1976–77 school year. Two-thirds of the children in day care centers had their care paid for by parent fees. On the average, these fees for full-time participants ranged from $19 to $26 weekly. A majority of centers charged differential fees; most commonly fee differences were based on the size of the family, and least often on the age of the child.

In fiscal year 1980, approximately $735 million were appropriated for Head Start programs (entry 5.16). This represented a seven-fold increase in allocations from 1965, the first year of the program. From the late 1960's through the mid-1970's, appropriations for Head Start rose rather slowly. In 1968 and again in 1970, appropriations actually fell below the amount allocated in the previous fiscal year. Head Start in 1978, however, underwent a major expansion, raising allocations by $150 million. This increase enabled existing programs to increase their enrollments and helped community agencies establish new centers. In the present era of Federal budget austerity, Head Start has received strong support for maintaining spending at current levels.

Effects of Preprimary Programs

As the appropriations history of Head Start may suggest, support has not always been forthcoming. This has been true of support not only from legislators but also from the research community. A few years after Head Start was initiated, evaluations of early education programs appeared which questioned their effectiveness in significantly improving the educational performance of low-income children. These studies indicated that any gains in ability attributable to the preschool experience later deteriorated in the elementary school grades. More recent research, however, has criticized these early studies as premature and too narrowly focused on I.Q. scores.

This question of preschool effectiveness has been addressed by the Consortium for Longitudinal Studies through a major analysis of longitudinal data compiled from several studies of early education programs (entry 5.17). Although the original data were gathered independently, the investigators collectively developed a longitudinal design to assess the progress that low-income preschoolers had made in school. Dating back to the early and mid-1960's, these early education programs served preschool children in urban and rural settings throughout most of the Nation. The children were from low-income families and predominantly black. In most cases, they were matched with a control group of children from similar backgrounds who did not attend preschool. When these children were contacted for the followup, they were between 10 and 19 years old.

The longitudinal study permitted examination of children's actual school performances as opposed to scores on standardized tests or predictors of school performance, such as I.Q. scores. Specifically, it examined whether they progressed through school with their age mates or had fallen behind by being assigned to special remedial classes or by being retained in grade. The study found that children who had preschool experience were substantially less likely to be assigned to special classes or retained in grade, compared to control children. Combining the results from six studies yielded evidence that early education significantly reduced the proportion of low-income children later assigned to special education classes. Although individual findings from two of the studies were in the opposite direction, results from the other studies overwhelmingly favored the preschool group. Evidence that early education reduced grade failure was less striking but in the same direction as the reduction in special education. Most projects reported that preschoolers were less likely than control group children to be retained in grade, but only one study's findings were individually significant. Once these results were pooled, however, the difference between the preschool groups and the control groups was statistically significant. Furthermore, the study found that on fourth-grade standardized achievement tests, preschoolers scored significantly higher than control children on mathematics achievement and tended to score higher on reading as well.

Given that the early education programs were independently conducted, the researchers were able to assess whether any one program was most effective in benefiting low-income children. They concluded that all were about equally effective in aiding the progress of low-income children through school. The researchers suggested that successful programs had in common certain features: low children to staff ratios; regular in-service training for staff; supportive supervision of staff; and well-articulated curriculum. Although their research did not specifically addresss the question of parental influence, they generally affirmed the importance of involving the parents in children's early education experiences.

The evidence does support the continued development of formal preprimary programs for low-income children. Whether these findings can be applied to other preprimary programs or to preschoolers in general is unknown. As suggested previously, demographic and social trends in the 1980's may encourage the general expansion of preprimary education. The rise in births anticipated for the beginning of the decade may increase the demand for preprimary programs. Additionally, the current participation rates of 3- and 4-year-olds leaves considerable room for expansion. In some States, public school kindergarten programs have yet to be fully developed. Full-time labor force participation of mothers also may contribute to the need for full-day preprimary programs. Clearly, preprimary education is an area likely to grow in the coming decade.

Table 5.1
Preprimary school enrollment of 3- to 5-year-olds, by age group: 1967 to 1989

Year	Total	3-year-olds	4-year-olds	5-year-olds
		(In thousands)		
1967	3,868	274	871	2,723
1968	3,929	318	911	2,700
1969	3,949	316	879	2,754
1970	4,103	454	1,006	2,643
1971	4,149	430	1,048	2,671
1972	4,230	535	1,120	2,575
1973	4,235	515	1,177	2,543
1974	4,698	684	1,321	2,693
1975	4,955	683	1,418	2,854
1976	4,790	602	1,348	2,840
1977	4,577	645	1,290	2,642
1978	4,584	759	1,313	2,511
		Projected		
1979	4,558	732	1,358	2,468
1980	4,679	778	1,369	2,532
1981	4,770	834	1,427	2,509
1982	4,963	885	1,503	2,575
1983	5,185	946	1,583	2,656
1984	5,401	1,023	1,694	2,784
1985	5,790	1,089	1,786	2,915
1986	6,045	1,128	1,875	3,042
1987	6,274	1,180	1,946	3,148
1988	6,418	1,209	2,007	3,202
1989	6,559	1,255	2,063	3,241

SOURCE: U.S. Department of Commerce, Bureau of the Census, unpublished tabulations and U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1988–89*, 1980.

Chart 5.1
Preprimary School Enrollment by Age Group

Although participation rates have risen, the number of 3- to 5-year-olds in preprimary programs has decreased in recent years because of population declines. Beginning in 1980, an enrollment upturn is expected due to an increase in births.

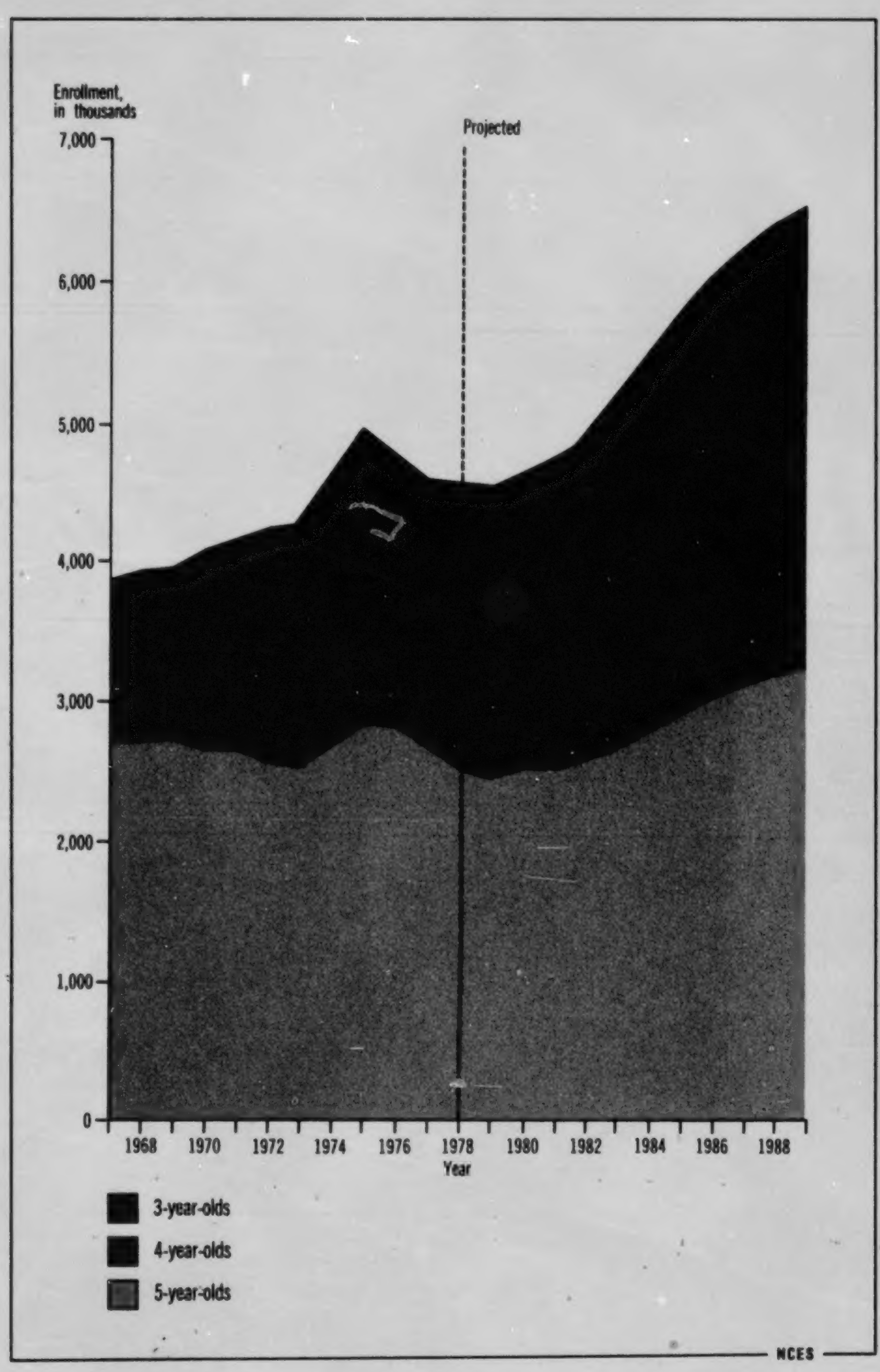


Table 5.2
Public regular preprimary school enrollment related to 1st grade enrollment, by State: Fall 1978

State or other area	Preprimary[1]	1st grade	Preprimary as a percent of 1st grade
Total 50 States and D.C.	2,642,000	3,062,000	86.3
Alabama	24,199	62,915	38.5
Alaska	6,526	7,459	87.5
Arizona	33,381	40,161	83.1
Arkansas	27,520	37,105	74.2
California	275,393	291,757	94.4
Colorado	37,079	40,277	92.1
Connecticut	38,041	38,052	100.0
Delaware	6,115	7,060	86.6
District of Columbia	9,301	8,563	108.6
Florida	92,516	118,413	78.1
Georgia	NA	NA	---
Hawaii	12,078	12,368	97.7
Idaho	13,368	16,304	82.0
Illinois	144,766	107,347	134.9
Indiana	73,412	84,025	87.4
Iowa	38,241	38,713	98.8
Kansas	30,222	30,949	97.6
Kentucky	32,257	59,495	54.2
Louisiana	47,232	64,939	72.7
Maine	15,869	17,491	90.7
Maryland	48,044	46,850	102.5
Massachusetts	66,974	70,996	94.3
Michigan	129,592	135,997	95.3
Minnesota	51,899	50,227	103.3
Mississippi	2,274	42,030	5.4
Missouri	59,599	65,164	91.5
Montana	10,283	12,181	84.4
Nebraska	21,965	21,748	101.0
Nevada	8,969	10,409	86.2
New Hampshire	4,348	14,272	30.5
New Jersey	81,631	85,569	95.4
New Mexico	17,853	20,443	87.3
New York	177,381	199,591	88.9
North Carolina	75,162	89,927	83.6
North Dakota	3,844	9,431	40.8
Ohio	146,341	150,395	97.3
Oklahoma	40,731	46,354	87.9
Oregon	19,024	36,659	51.9
Pennsylvania	125,266	139,594	89.7
Rhode Island	9,172	10,671	86.0
South Carolina	32,686	49,110	66.6
South Dakota	9,100	9,900	91.9
Tennessee	55,518	69,655	79.7
Texas	204,901	234,278	87.5
Utah	28,693	26,640	107.7
Vermont	4,857	7,665	63.4
Virginia	64,441	76,386	84.4
Washington	49,638	54,588	90.9
West Virginia	27,511	32,885	83.7
Wisconsin	62,601	54,436	115.0
Wyoming	7,276	7,525	96.7
Outlying areas			
American Samoa	NA	NA	---
Guam	NA	NA	---
Puerto Rico	26,419	66,639	39.6
Virgin Islands	1,739	2,289	76.0
Commonwealth of the Northern Marianas	---	435	---

NA Not available.

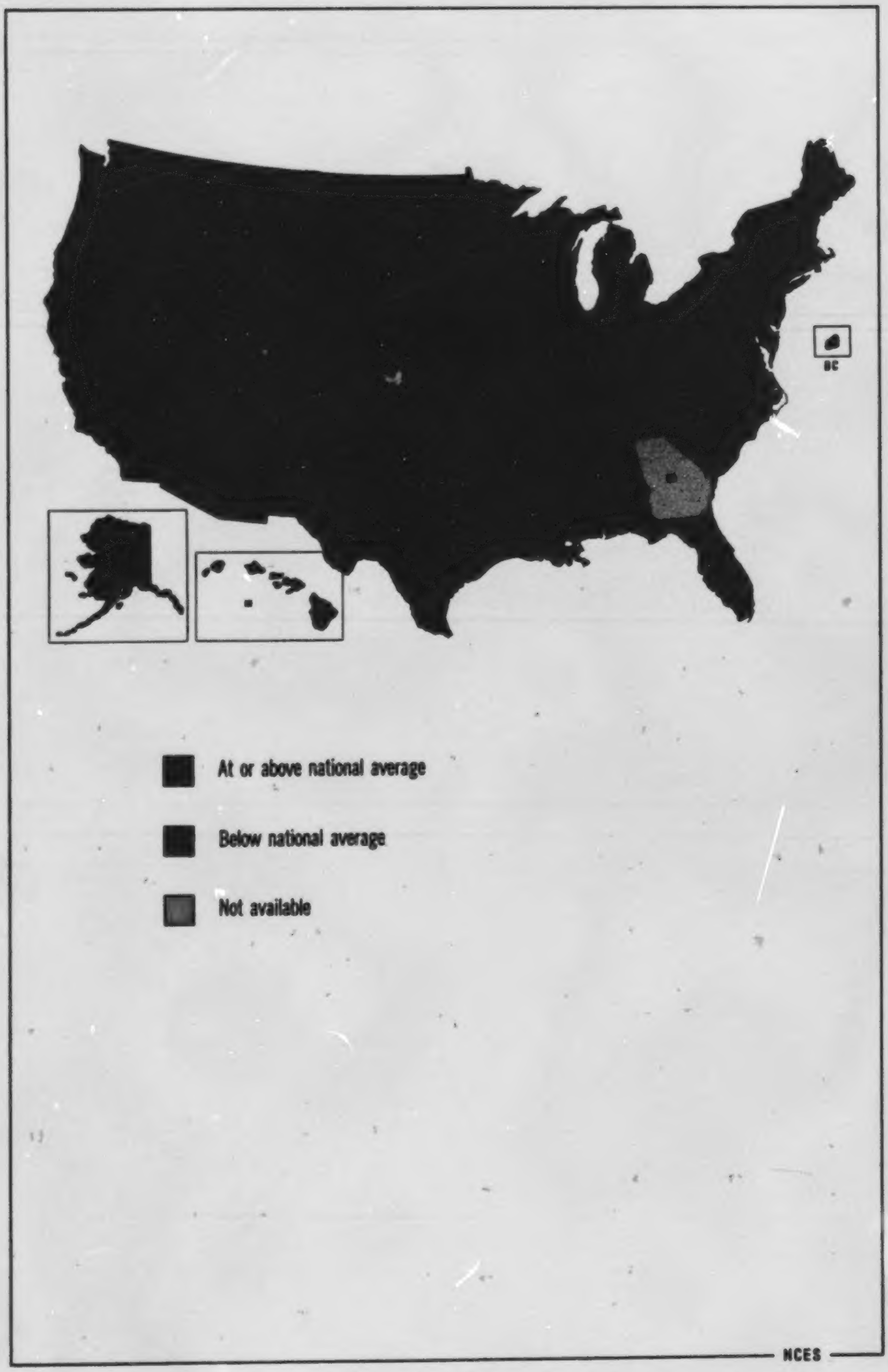
[1] Nurseries and kindergartens operated as part of the regular school system.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Day Schools, Fall 1978*, 1979.

Chart 5.2
Public Preprimary School Enrollment as a Percent of 1st Grade Enrollment

Preschoolers were less likely to be enrolled through regular public school programs in the South than in the rest of the Nation.


DC
At or above national average
Below national average
Not available

NCES

Table 5.3
Estimated number and enrollment of day care centers, by funding status of center and State: 1976–77

State	Number of centers			Enrollment of centers		
	Total	Funded[1]	Non-funded	Total	Funded[1]	Non-funded
Total 50 States and D.C.	18,307	8,096	10,211	897,733	407,557	490,176
Alabama	488	190	298	27,255	10,424	16,831
Alaska	29	19	10	1,888	([2])	([2])
Arizona	209	144	65	12,100	8,891	([2])
Arkansas	277	92	185	11,441	3,302	8,139
California	1,981	710	1,271	113,775	41,310	72,465
Colorado	206	97	109	11,306	5,222	6,084
Connecticut	205	87	118	7,365	3,458	3,907
Delaware	82	42	40	3,441	1,403	2,038
District of Columbia	154	71	83	6,315	3,035	3,280
Florida[3]	1,073	235	838	49,012	14,519	34,493
Georgia	992	295	697	38,047	12,271	25,776
Hawaii	150	86	64	8,613	4,911	3,702
Idaho	55	29	26	2,200	1,562	([2])
Illinois	823	469	354	41,039	21,204	19,835
Indiana	223	106	117	13,566	7,170	6,396
Iowa	174	71	103	6,760	3,218	3,542
Kansas	62	48	14	2,728	2,101	([2])
Kentucky	276	165	111	9,384	5,643	3,741
Louisiana	459	115	344	16,208	3,856	12,352
Maine	46	28	18	2,076	1,282	794
Maryland	350	124	226	13,449	4,200	9,249
Massachusetts	324	248	76	13,753	11,384	([2])
Michigan	358	265	93	20,085	15,379	([2])
Minnesota	195	132	63	8,056	4,928	([2])
Mississippi	511	133	378	31,284	([2])	21,757
Missouri	333	241	92	17,034	12,806	([2])
Montana	36	32	4	1,730	1,619	([2])
Nebraska	107	99	8	4,354	4,057	([2])
Nevada	74	15	59	4,222	([2])	2,399
New Hampshire	65	42	23	2,980	2,260	720
New Jersey	419	255	164	22,068	13,455	8,613
New Mexico	162	87	75	6,729	3,856	2,873
New York	829	540	289	50,766	36,469	14,297
North Carolina	1,156	374	782	50,678	13,778	36,900
North Dakota	28	13	15	905	([2])	([2])
Ohio	503	217	286	27,666	11,766	15,900
Oklahoma	466	398	68	22,200	17,728	([2])
Oregon	241	128	113	9,515	5,850	3,665
Pennsylvania	442	301	141	18,788	12,107	6,681
Rhode Island	34	31	3	1,971	1,865	([2])
South Carolina	376	181	195	16,853	9,886	6,967
South Dakota	30	22	8	1,003	747	([2])
Tennessee	530	200	330	20,163	8,634	11,529
Texas	1,767	329	1,438	100,045	20,307	79,738
Utah	62	47	15	3,406	2,911	([2])
Vermont	42	41	1	1,487	1,452	([2])
Virginia	305	106	199	15,592	5,344	10,248
Washington	278	193	85	14,534	8,729	([2])
West Virginia	71	64	7	2,194	2,023	([2])
Wisconsin	227	124	103	9,197	5,908	3,289
Wyoming	22	15	7	1,278	854	([2])

[1] Denotes centers that enroll at least 1 child whose care is paid for at least in part by government funds.
[2] No estimate provided because sample size too small (less than 10).
[3] Estimates are for 17 county sub-State area only.

SOURCE: Abt Associates, Inc., *Day Care Centers in the U.S.: A National Profile 1976–77*, sponsored by U.S. Department of Health, Education, and Welfare, Administration for Children, Youth and Families, 1979.

Chart 5.3
Day Care Center Enrollment

Although most States with large day care center enrollments were highly populated, some States such as North Carolina, Georgia, and Mississippi had larger enrollments than would be expected from population alone.

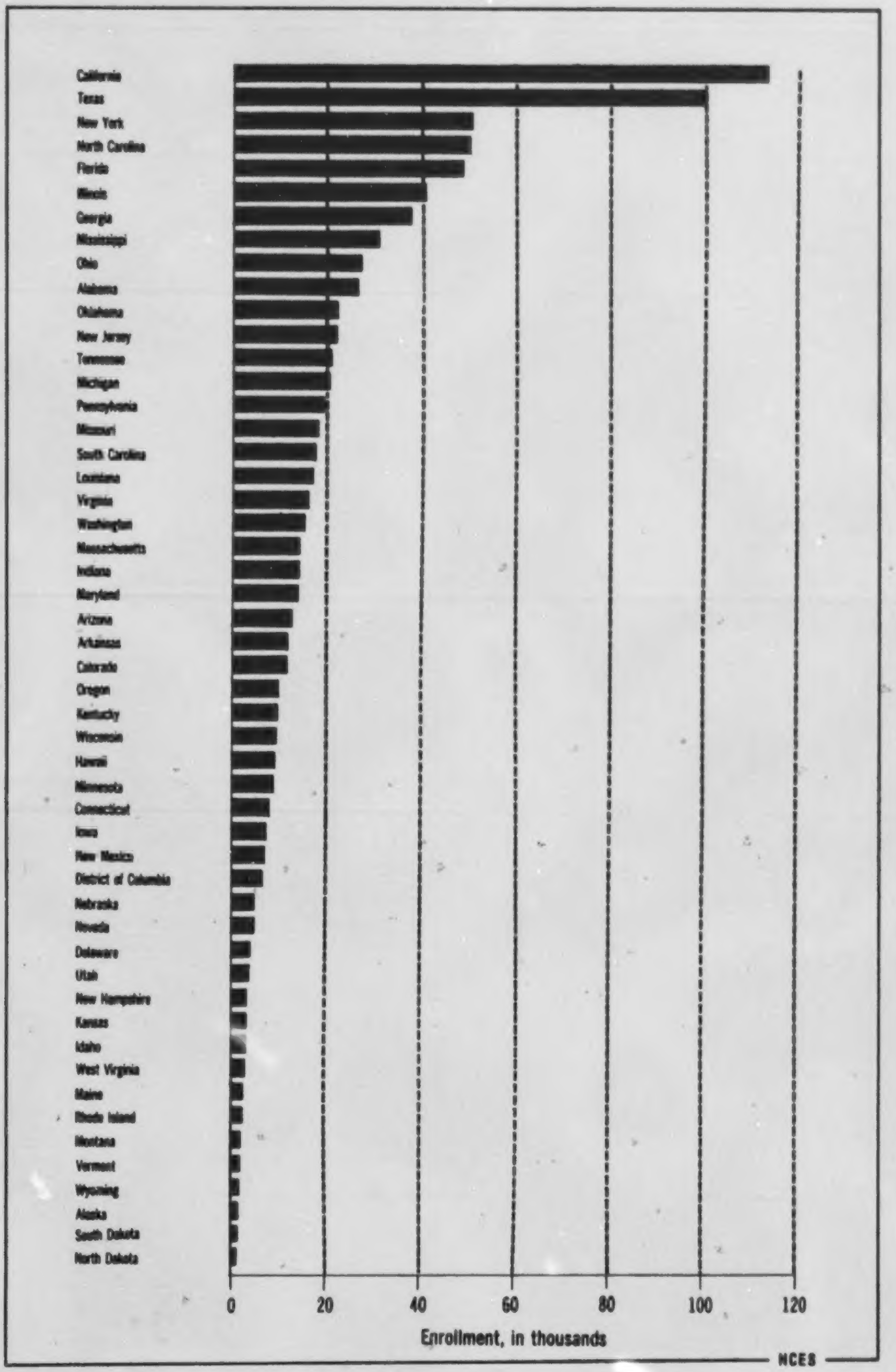


Table 5.4
Legal status and sponsorship of day care centers: 1976–77

Status and sponsorship	Centers
	Percentage distribution
Total	100.0
Profit	40.7
Independent	35.1
Group	5.6
Non-profit	59.2
Independent	19.0
Sponsored	40.2
Church	16.7
Community	7.7
Government	7.0
Head Start	4.0
School	3.2
Other	1.6

NOTE: Details may not add to totals because of rounding.

SOURCE: Abt Associates, Inc., *Day Care Centers in the U.S.: A National Profile 1976–77*, sponsored by U.S. Department of Health, Education, and Welfare, Administration for Children, Youth and Families, 1979.

Chart 5.4
Legal Status and Sponsorship of Day Care Centers

Forty percent of day care centers operated for profit and most of these were run independent of a sponsoring organization. Non-profit day care centers were more often sponsored, most notably by churches.

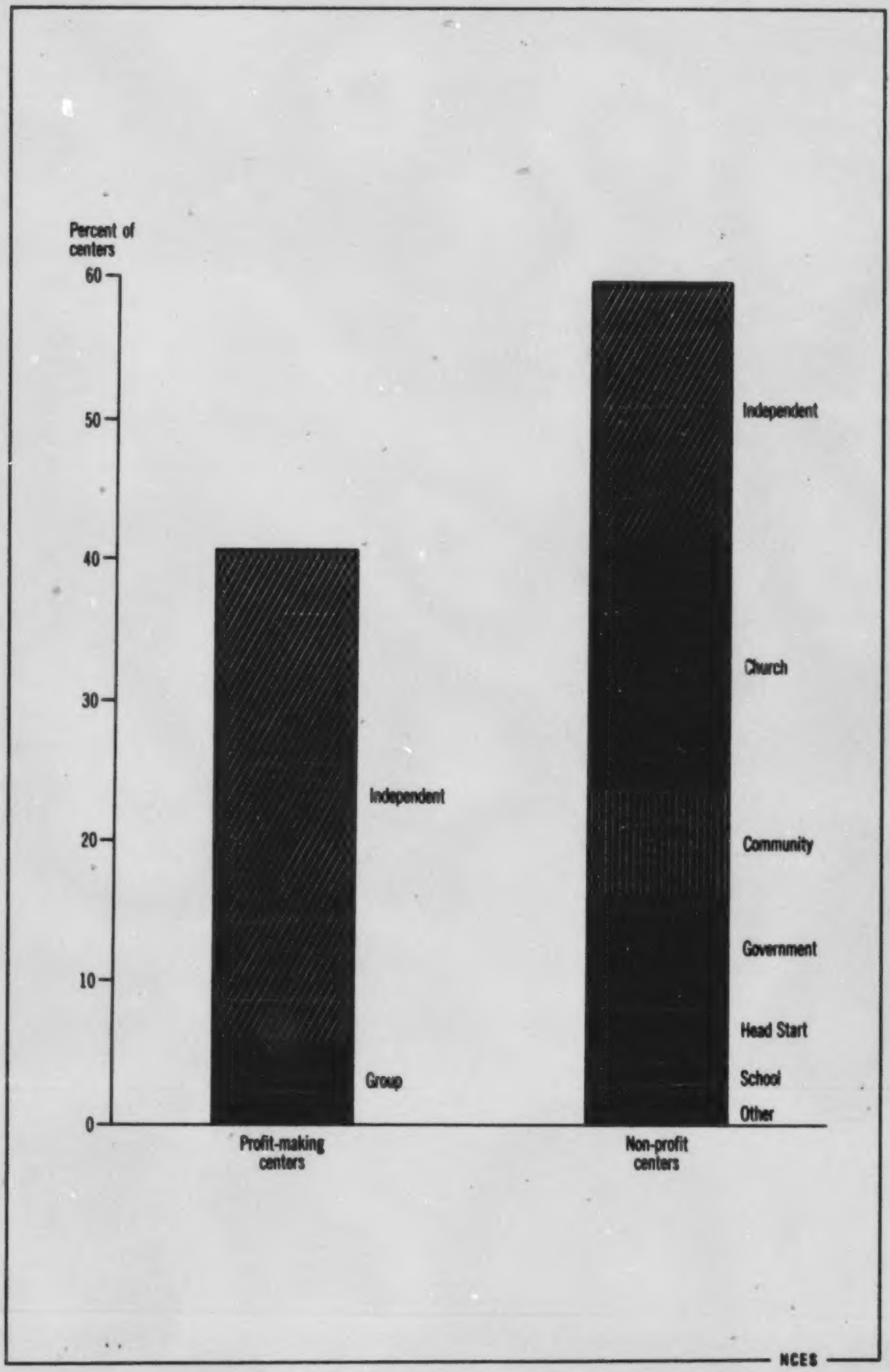


Table 5.5
Estimated number of children enrolled in Head Start, by type of program: Fiscal year 1965 to 1979

Fiscal year	Total enrollment	Full-year program enrollment[1]	Summer program enrollment
1965	561,000	---	561,000
1966	733,000	160,000	573,000
1967	681,000	215,000	466,000
1968	693,800	217,000	476,800
1969	624,200	202,500	421,700
1970	423,800	228,500	195,300
1971	409,000	285,500	123,500
1972	367,900	281,500	86,400
1973	367,900	281,500	86,400
1974	368,000	299,000	69,000
1975	338,000	292,000	46,000
1976	338,000	292,000	46,000
1977	322,000	296,000	26,000
1978	391,400	365,400	26,000
1979	387,500	369,300	18,200

[1] Includes children enrolled in Parent and Child Centers which serve children from infancy to 3-years-old.

NOTE: In addition to the above totals, since 1969, Head Start's experimental programs have served approximately [illegible],000 children each year.

SOURCE: U.S. Department of Health, Education and Welfare, Administration for Children, Youth and Families, special tabulations.

Chart 5.5
Participation in Head Start Programs

Since 1970, a majority of enrollments in Head Start has been in the full-year program. In 1979, 369,300 children, or 95 percent of the participants, took part in the full-year program.

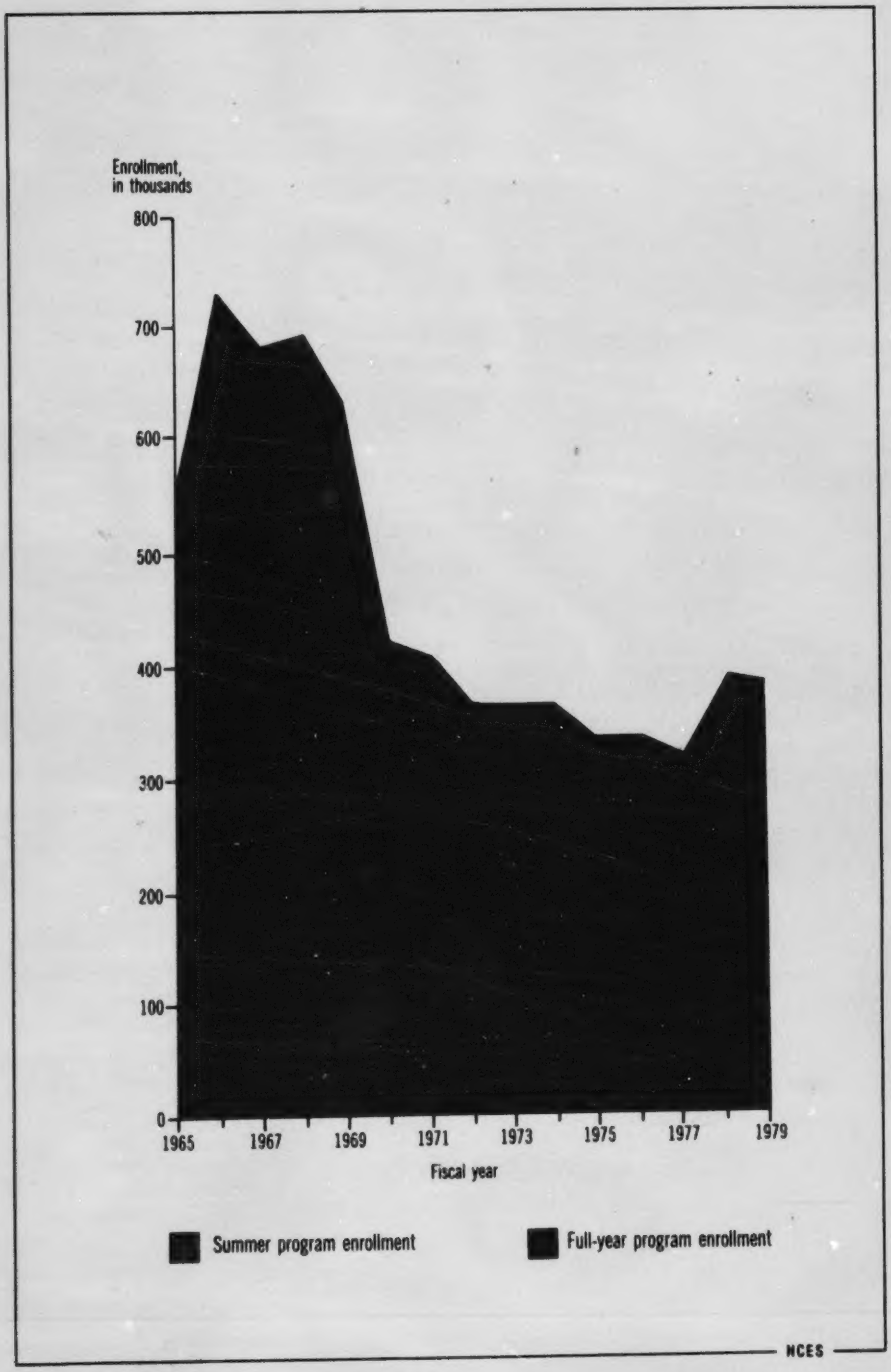


Table 5.6
Preprimary school enrollment of 3- to 5-year-olds, by age group and by labor force status of mother: October 1978

Characteristic	Total		3-year-olds		4-year-olds		5-year-olds	
	Enrolled	Enrolled all day	Enrolled	Enrolled all day	Enrolled	Enrolled all day	Enrolled	Enrolled all day
				Number, in thousands				
Total	4,584	1,403	759	301	1,313	412	2,512	688
With mother in labor force	2,173	892	408	241	609	260	1,156	385
Employed full time	1,309	665	251	189	365	206	693	270
Employed part time	691	161	129	39	180	33	382	90
Unemployed	173	66	27	13	65	28	81	25
With mother not in labor force	2,286	471	319	45	668	137	1,299	289
Keeping house	2,145	418	285	31	631	122	1,229	265
In school	58	34	18	12	15	11	25	10
Other	83	20	16	2	23	4	45	14
No mother present	124	39	32	17	36	8	56	14
				Percent of age group				
Total	50.3	15.4	25.1	10.1	43.4	13.6	82.1	22.5
With mother in labor force	53.0	22.8	29.9	17.7	45.4	19.8	83.2	27.7
Employed full time	53.5	27.2	30.1	22.7	46.2	26.2	84.3	32.8
Employed part time	53.6	12.5	31.1	9.3	42.7	7.7	84.2	19.7
Unemployed	48.0	18.3	23.7	11.8	48.9	20.8	71.7	21.9
With mother not in labor force	47.8	9.8	20.1	2.9	41.6	8.6	81.6	18.1
Keeping house	47.7	9.2	19.3	2.1	41.4	8.0	81.8	17.7
In school	59.2	34.7	([1])	([1])	([1])	([1])	([1])	([1])
Other	44.2	10.6	20.9	2.2	([1])	([1])	([1])	([1])
No mother present	54.7	17.3	48.5	24.6	46.1	10.2	71.0	17.7

[1] Base less than 75,000.
NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished data.

Chart 5.6
Preprimary School Enrollment by Labor Force Status of Mother

Five-year-olds were more often enrolled in preprimary programs than 3- and 4-year-olds. Among all age groups, children with mothers working full time were more likely to be enrolled in all-day programs.

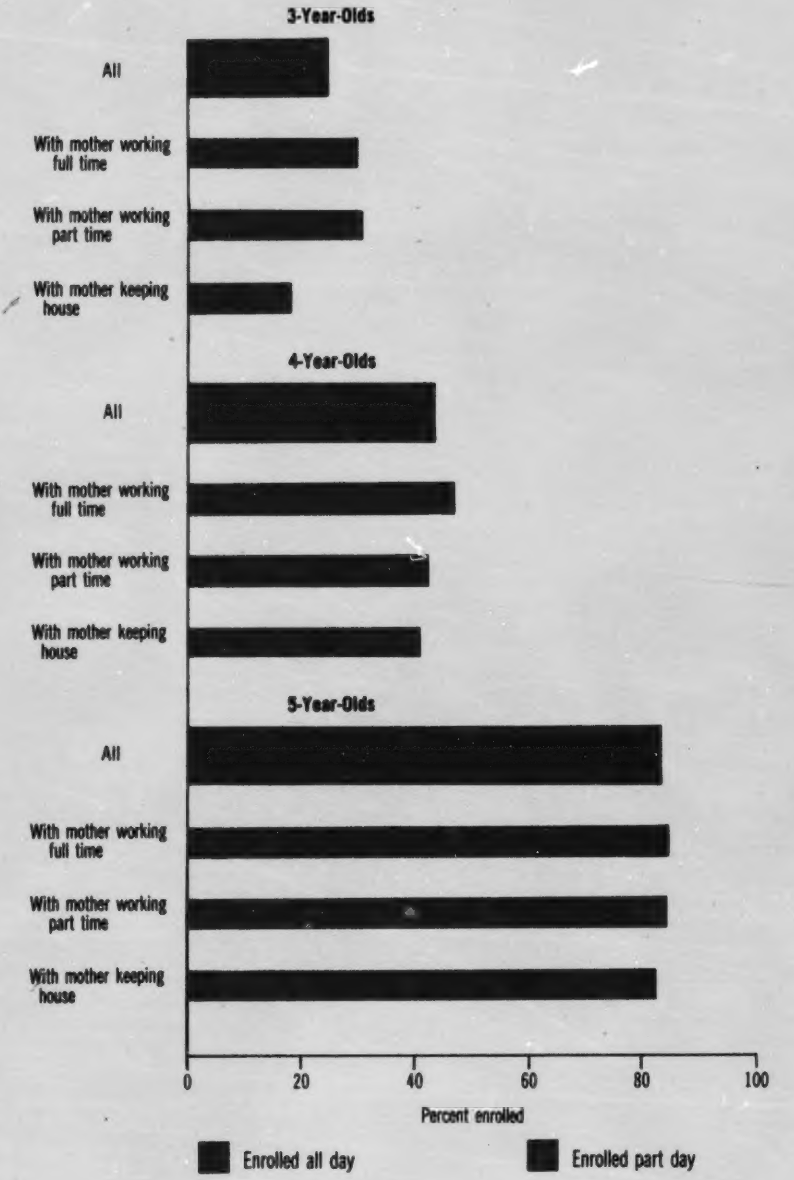


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Table 5.7
Preprimary school enrollment of 3- to 5-year-olds, by racial/ethnic group, educational attainment and sex of household head: October 1978

Characteristic	Total	3-year-olds	4-year-olds	5-year-olds
	Number enrolled, in thousands			
Total	4,584	759	1,313	2,512
Racial/ethnic group				
White	3,697	584	1,038	2,075
Black	749	157	229	363
Hispanic origin	295	42	66	187
Educational attainment of household head				
8 years or less	398	42	88	268
9 to 11 years	598	64	160	374
12 years	1,582	242	425	915
13 to 15 years	776	129	254	393
16 years or more	1,086	261	346	478
Sex of household head				
Male	3,710	632	1,043	2,035
Female	729	106	230	393
	Percent enrolled of population subgroup			
Total	**50.3**	25.1	43.4	82.1
Racial/ethnic group				
White	**49.5**	23.5	41.8	83.1
Black	**53.1**	33.7	48.9	76.2
Hispanic origin	**40.9**	16.6	29.0	78.0
Educational attainment of household head				
8 years or less	**38.7**	12.3	26.5	75.9
9 to 11 years	**41.9**	13.9	33.2	76.7
12 years	**48.2**	22.2	39.5	81.9
13 to 15 years	**53.2**	26.9	48.8	85.6
16 years or more	**66.8**	46.4	66.9	87.6
Sex of household head				
Male	**50.5**	25.8	42.9	82.3
Female	**49.4**	21.8	46.1	80.1

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished data.

Chart 5.7
Preprimary School Enrollment by Background Characteristics

Children of college-educated household heads were more likely than others to be enrolled in preprimary programs.

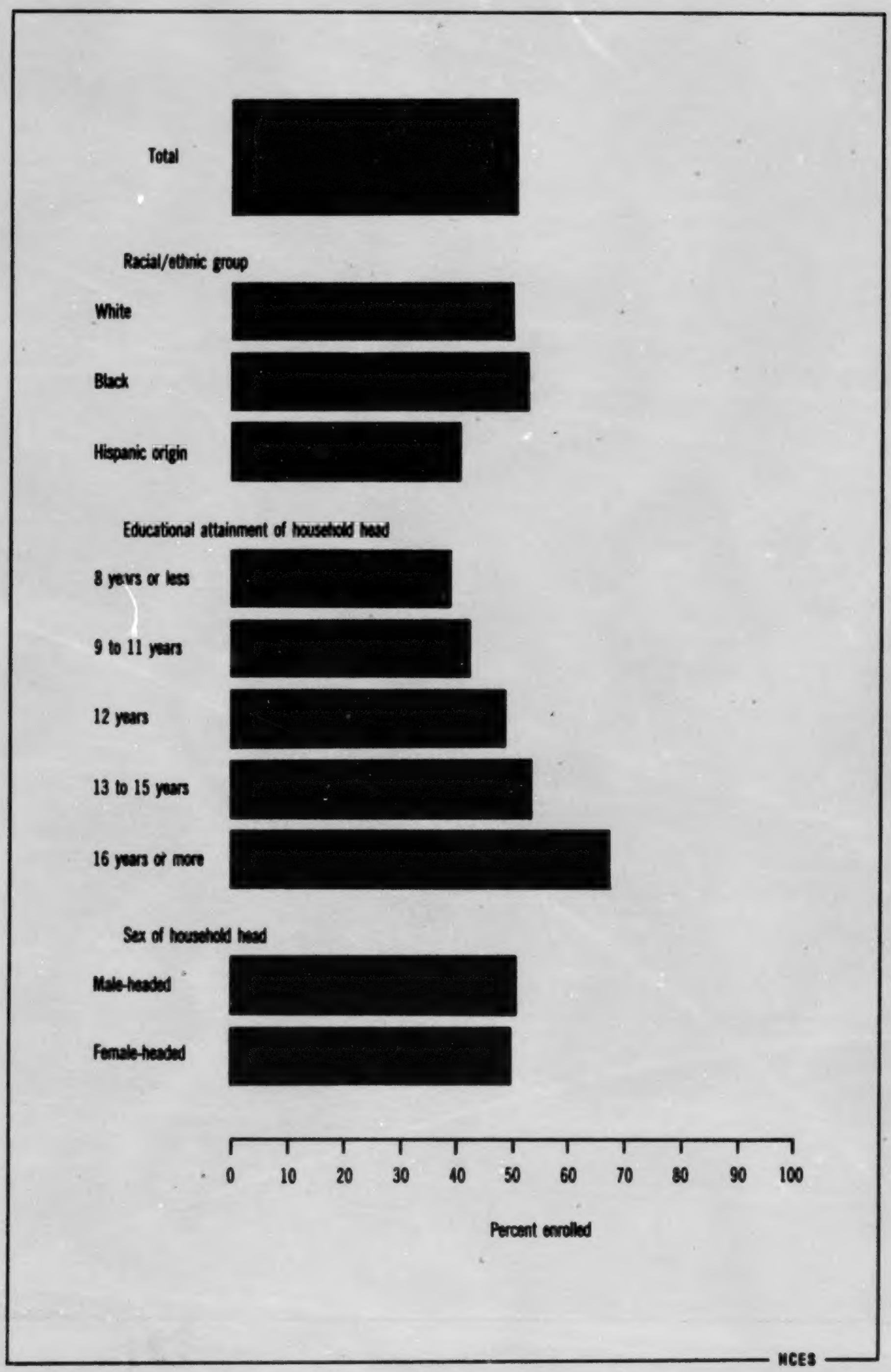


Table 5.8
Preprimary school enrollment of 3- to 5-year-olds, by level and control of school and family income: October 1978

Family income	All preprimary			Nursery school			Kindergarten		
	Total	Public	Nonpublic	Total	Public	Nonpublic	Total	Public	Nonpublic
	Percent enrolled								
Total	**50.3**	**31.6**	**18.7**	20.0	6.4	13.6	30.3	25.2	5.1
Under $5,000	**42.9**	**38.8**	**4.1**	15.7	12.4	3.3	27.2	26.4	.8
$5,000 to $9,999	**42.2**	**34.1**	**8.1**	14.0	8.3	5.7	28.2	25.7	2.4
$10,000 to $14,999	**44.9**	**29.3**	**15.6**	15.3	4.6	10.7	29.6	24.7	4.9
$15,000 to $19,999	**50.8**	**28.2**	**22.6**	21.4	4.2	17.2	29.4	24.0	5.4
$20,000 to $24,999	**63.3**	**33.3**	**29.9**	28.4	5.5	22.8	34.9	27.8	7.1
$25,000 to $49,999	**66.2**	**26.2**	**40.0**	32.6	4.6	28.0	33.6	21.6	12.0
$50,000 and over	**79.0**	**27.4**	**51.6**	47.6	5.0	42.6	31.4	22.4	9.0
Not reported	52.8	35.1	17.1	18.5	7.2	11.3	34.3	27.9	6.5

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished data.

Chart 5.8
Preprimary School Enrollment by Control of School and Family Income

Although the participation rate of 3- to 5-year-olds in public programs remained fairly constant across family income levels, the rate in nonpublic programs increased substantially from the lowest to the highest income level.

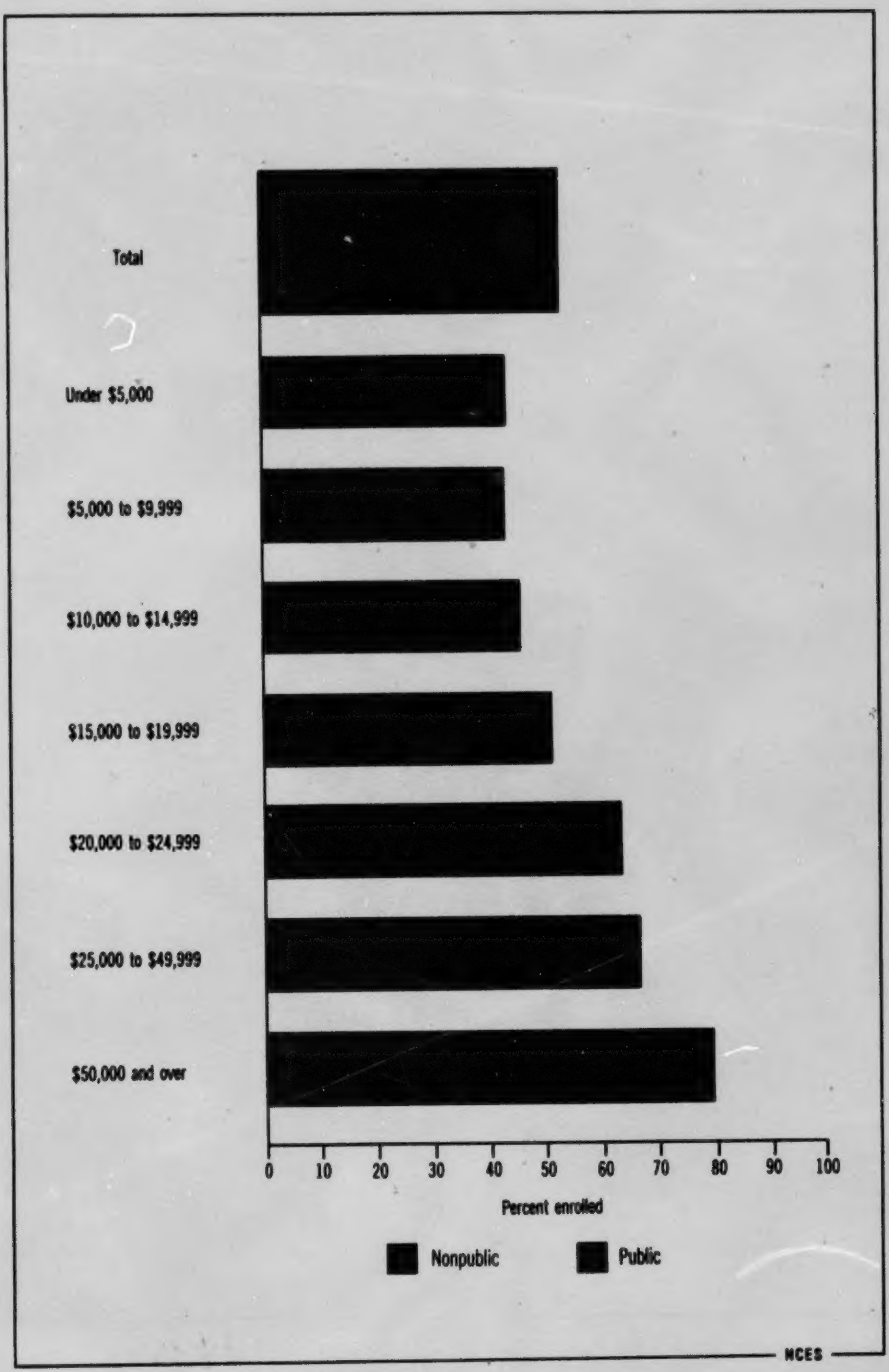


Table 5.9

Day care center enrollment, by funding status of center and background characteristics of children: 1976–77

Characteristics	All centers	Funded[1] centers		Non-funded centers	
		Profit	Non-profit	Profit	Non-profit
	Percentage distribution				
Annual family income					
Total	100	100	100	100	100
Less than $6,000	30	32	55	5	24
$6,000 to $15,000	43	45	36	45	48
More than $15,000	27	24	8	49	28
Race					
Total	100	100	100	100	100
White	63	74	44	81	67
Black	28	21	44	13	26
Other	9	5	12	6	7
Type of family					
Total	100	100	100	100	100
Two-parent	62	59	47	75	70
Single-parent	38	41	53	25	30

[1] Denotes centers that enroll at least 1 child whose care is paid for at least in part by government funds.

NOTE: Details may not add to totals because of rounding.

SOURCE: Abt Associates, Inc., *Day Care Centers in the U.S.: A National Profile 1976–77*, sponsored by U.S. Department of Health, Education, and Welfare, Administration for Children, Youth and Families, 1979.

Chart 5.9
Characteristics of Children and Families Served by Day Care Centers

Children in government assisted non-profit day care centers were more likely to be from poor, minority, or single-parent families, while children in non-funded profit-making centers were overwhelmingly from middle income, white, and two-parent families.

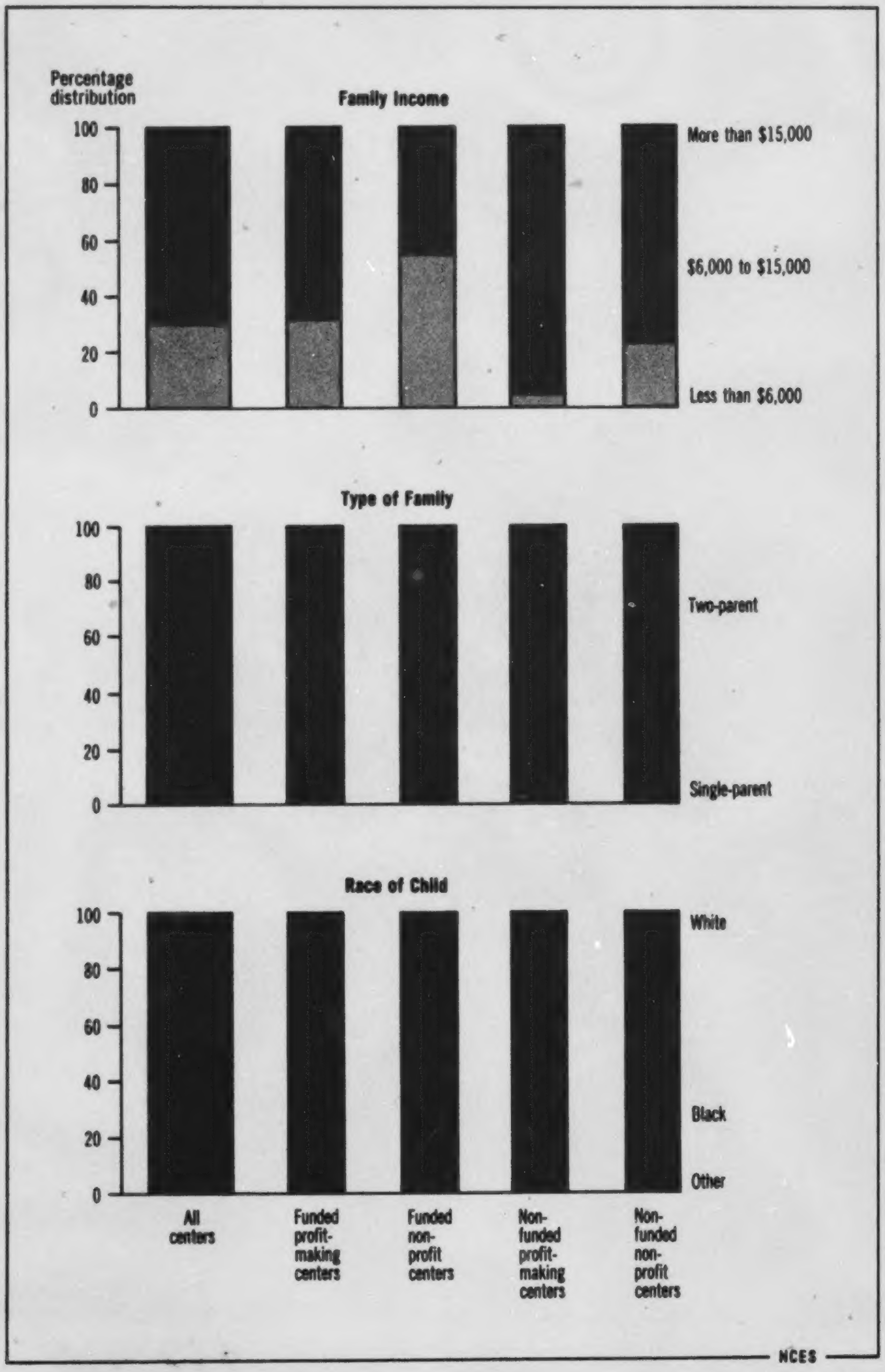


Table 5.10
Child-staff ratios in day care centers, by funding status of center: 1976–77

Item	All centers	Funded[1] centers		Non-funded centers	
		Profit	Non-profit	Profit	Non-profit
Number of centers	2,210	224	752	677	558
Child/staff ratio[2]	6.8	7.3	5.5	7.9	7.3
		Percentage distribution			
Total	100	100	100	100	100
5.0 or fewer children per caregiver	32	24	50	17	27
5.1 to 7.0 children per caregiver	30	30	34	30	25
7.1 to 9.0 children per caregiver	18	20	10	23	24
9.1 or more children per caregiver	20	28	6	30	24

[1] Denotes centers that enroll at least 1 child whose care is paid for at least in part by government funds.

[2] Child-staff ratios have been calculated by dividing total child-hours of care provided per week (adjusted for absences) by total number of hours adults work in the classroom per week. Such ratios pertain to the entire center and not to specific classrooms or age-groups of children.

NOTE: Details may not add to totals because of rounding.

SOURCE: Abt Associates, Inc., *Day Care Centers in the U.S.: A National Profile 1976–77*, sponsored by U.S. Department of Health, Education, and Welfare, Administration for Children, Youth and Families, 1979.

Chart 5.10
Child-Staff Ratios in Day Care Centers

A small proportion of all day care centers operated with more than 9 children per caregiver. Non-profit centers receiving some government support had fewer children per caregiver than other centers.

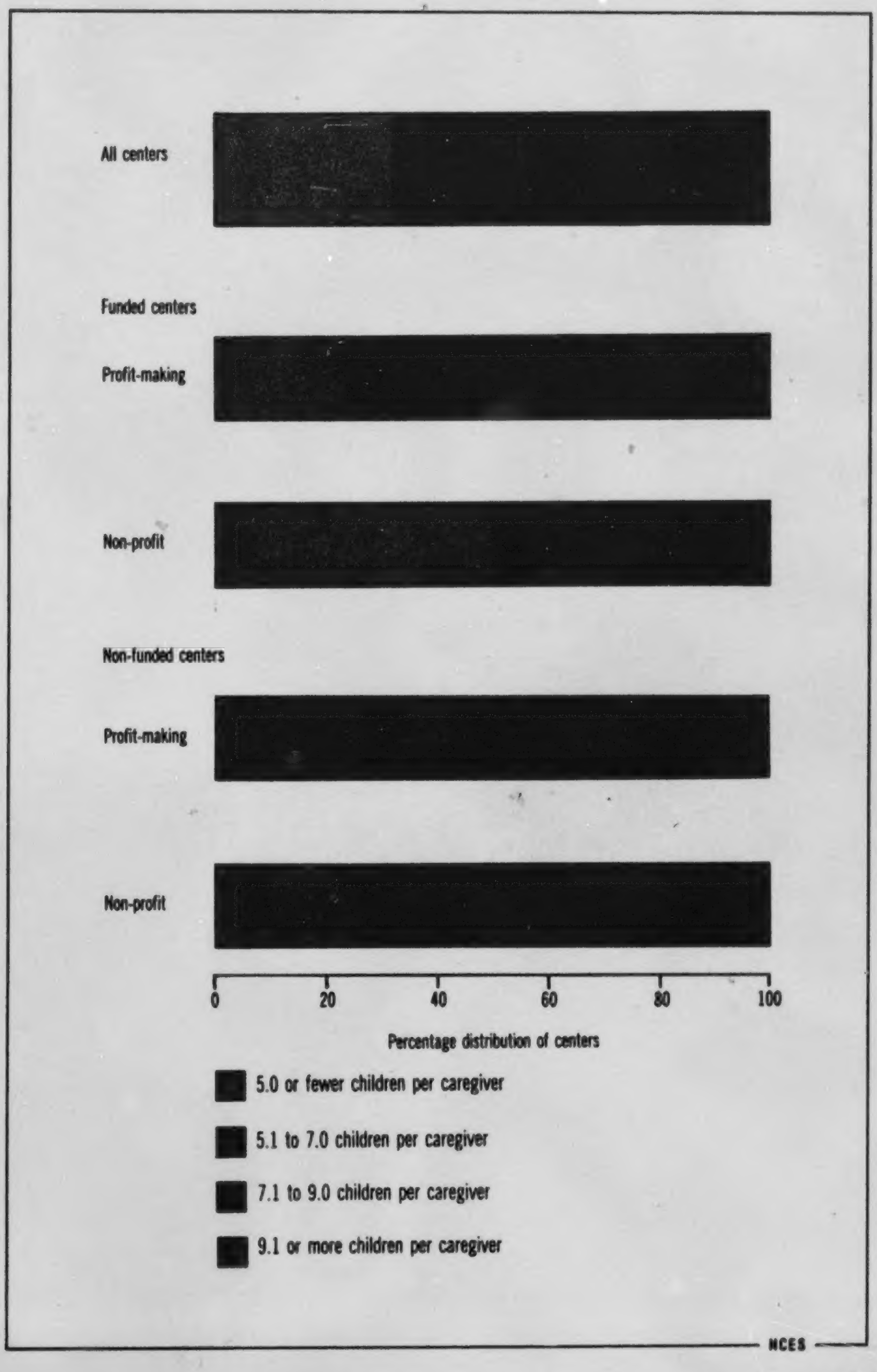


Table 5.11
Average class size in day care centers for children of specific ages and age range in day care center classrooms: 1976–77

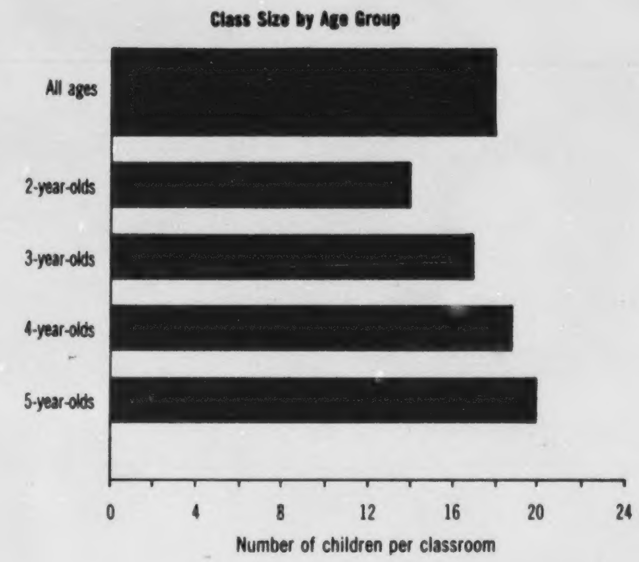
Item	All centers	Funded[1] centers		Non-funded centers	
		Profit	Non-profit	Profit	Non-profit
	Number of children per classroom				
Class size					
All ages	18	19	19	17	18
2-year-olds	14	16	15	14	14
3-year-olds	17	18	18	16	16
4-year-olds	19	20	19	19	19
5-year-olds	20	20	21	20	19
	Percentage distribution of classrooms				
Age range					
Total	100	100	100	100	100
Less than 2 years separate oldest from youngest child	80	74	80	77	84
2 years or more separate oldest from youngest child	20	26	20	23	16

[1] Denotes centers that enroll at least 1 child whose care is paid for at least in part by government funds.

SOURCE: Abt Associates, Inc., *Day Care Centers in the U.S.: A National Profile 1976–77*, sponsored by U.S. Department of Health, Education, and Welfare, Administration for Children, Youth and Families, 1979.

Chart 5.11
Class Size and Age Range in Day Care Center Classrooms

Day care centers averaged 18 children per classroom, and in most classrooms, the age range was narrow with fewer than 2 years separating the oldest from the youngest child.



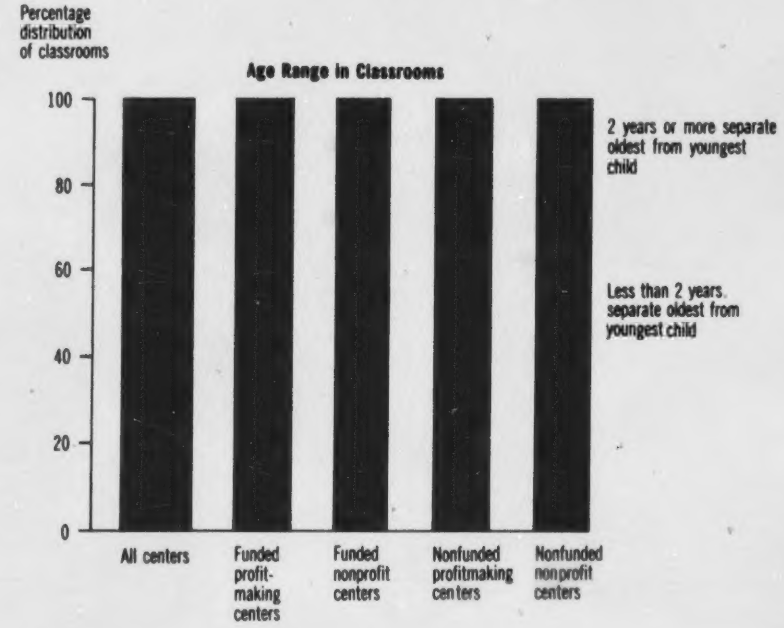


Table 5.12
Percent of day care centers staffed with professional specialists and percentage distribution of classroom staff, by selected background characteristics: 1976–77

Item	All centers	Funded[1] centers: Profit	Funded[1] centers: Non-profit	Non-funded centers: Profit	Non-funded centers: Non-profit
	Percent staffed with professional specialists				
Hearing, speech, or vision specialist	**8**	6	11	4	8
Psychologist	**8**	4	11	4	9
Social worker	**21**	9	39	6	20
Nurse	**23**	19	32	14	23
Child development specialist	**35**	39	48	23	31
None of the above specialists	**46**	29	43	65	48
	Percentage distribution of classroom staff				
Age					
Total	100	100	100	100	100
Under 18 years old	7	5	7	5	7
18 to 25 years old	34	47	35	33	30
26 to 35 years old	32	29	33	32	31
36 to 49 years old	19	14	18	20	21
50 years old or older	8	5	7	9	11
Sex					
Total	100	100	100	100	100
Male	6	8	8	5	4
Female	94	92	92	95	96
Race					
Total	100	100	100	100	100
White	66	76	50	84	73
Black	28	20	39	12	23
Other	7	4	10	3	5
Educational attainment					
Total	**100**	100	100	100	100
Less than 12 years	**10**	8	11	9	10
12 years	**35**	36	34	38	34
13 to 15 years	**25**	29	25	26	24
16 years or more	**29**	28	30	28	31
Years of experience					
Total	100	100	100	100	100
Less than 2 years	32	31	35	27	31
2 to 5 years	41	43	40	41	40
5.1 to 10 years	22	19	22	23	24
10.1 years or more	5	7	3	9	5

[1] Denotes centers that enroll at least 1 child whose care is paid for at least in part by government funds.

NOTE: Details may not add to totals because of rounding.

SOURCE: Abt Associates, Inc., *Day Care Centers in the U.S.: A National Profile 1976–77*, sponsored by U.S. Department of Health, Education, and Welfare, Administration for Children, Youth and Families, 1979.

Chart 5.12
Professional Specialists and Educational Attainment of Classroom Staff in Day Care Centers

Slightly over one-third of day care centers were staffed with child development specialists. More than half of all classroom staff had some postsecondary education.

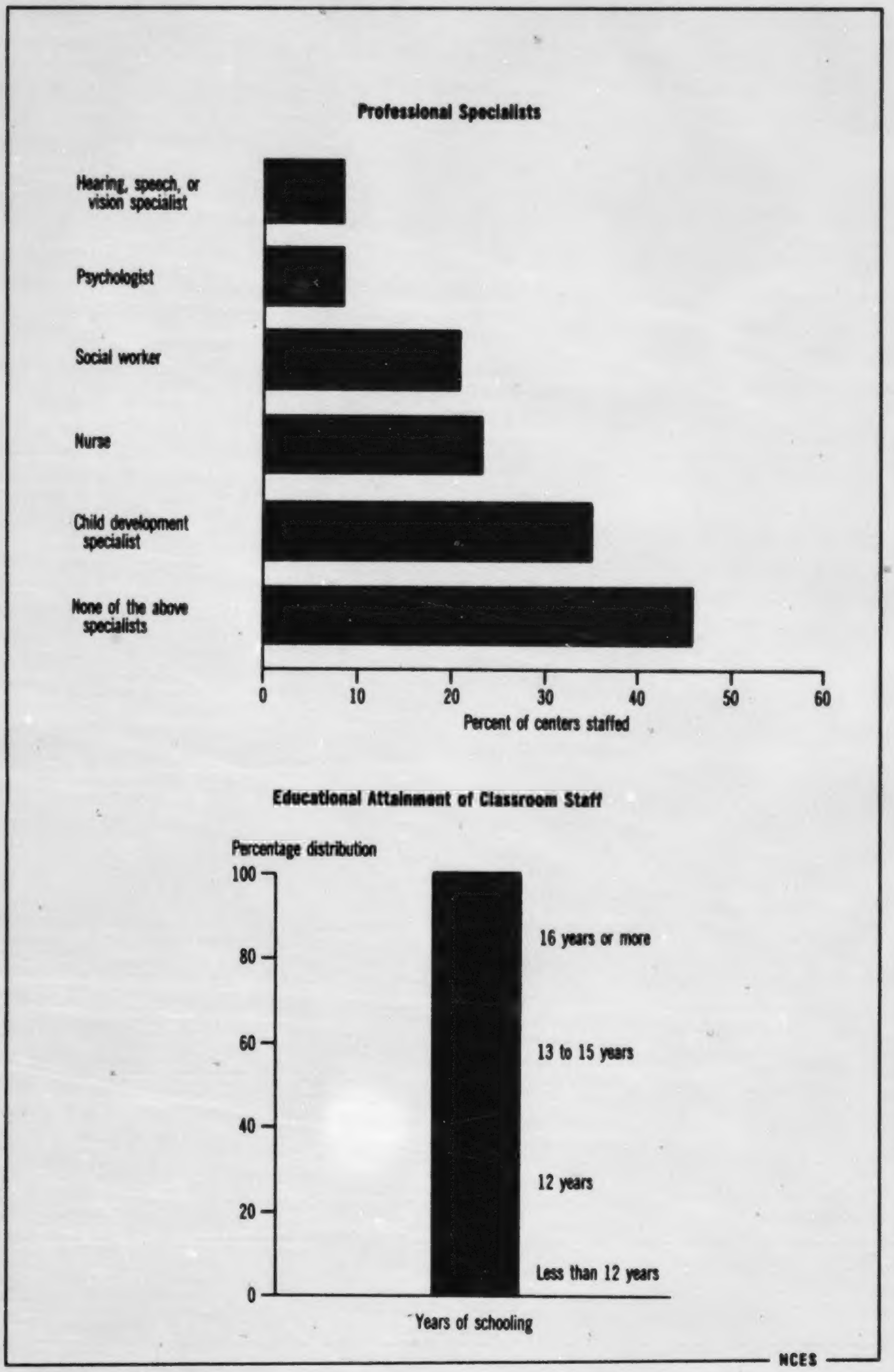


Table 5.13
Average weekly wages of full-time[1] classroom staff in day care centers, by funding status of centers: 1976–77

Wages	All centers	Funded[2] centers		Non-funded centers	
		Profit	Non-profit	Profit	Non-profit
Highest weekly wage average	$138	$124	$160	$118	$139
Lowest weekly wage average	95	91	102	88	94

[1] Work of 35 or more hours per week.

[2] Denotes centers that enroll at least 1 child whose care is paid for at least in part by government funds.

SOURCE: Abt Associates, Inc., *Day Care Centers in the U.S.: A National Profile, 1976–77*, sponsored by U.S. Department of Health, Education, and Welfare, Administration for Children, Youth and Families, 1979.

Chart 5.13
Weekly Wage Range of Full-Time Classroom Staff in Day Care Centers

Average weekly wages for full-time classroom staff in day care centers ranged from $95 to $138 in 1976–77.

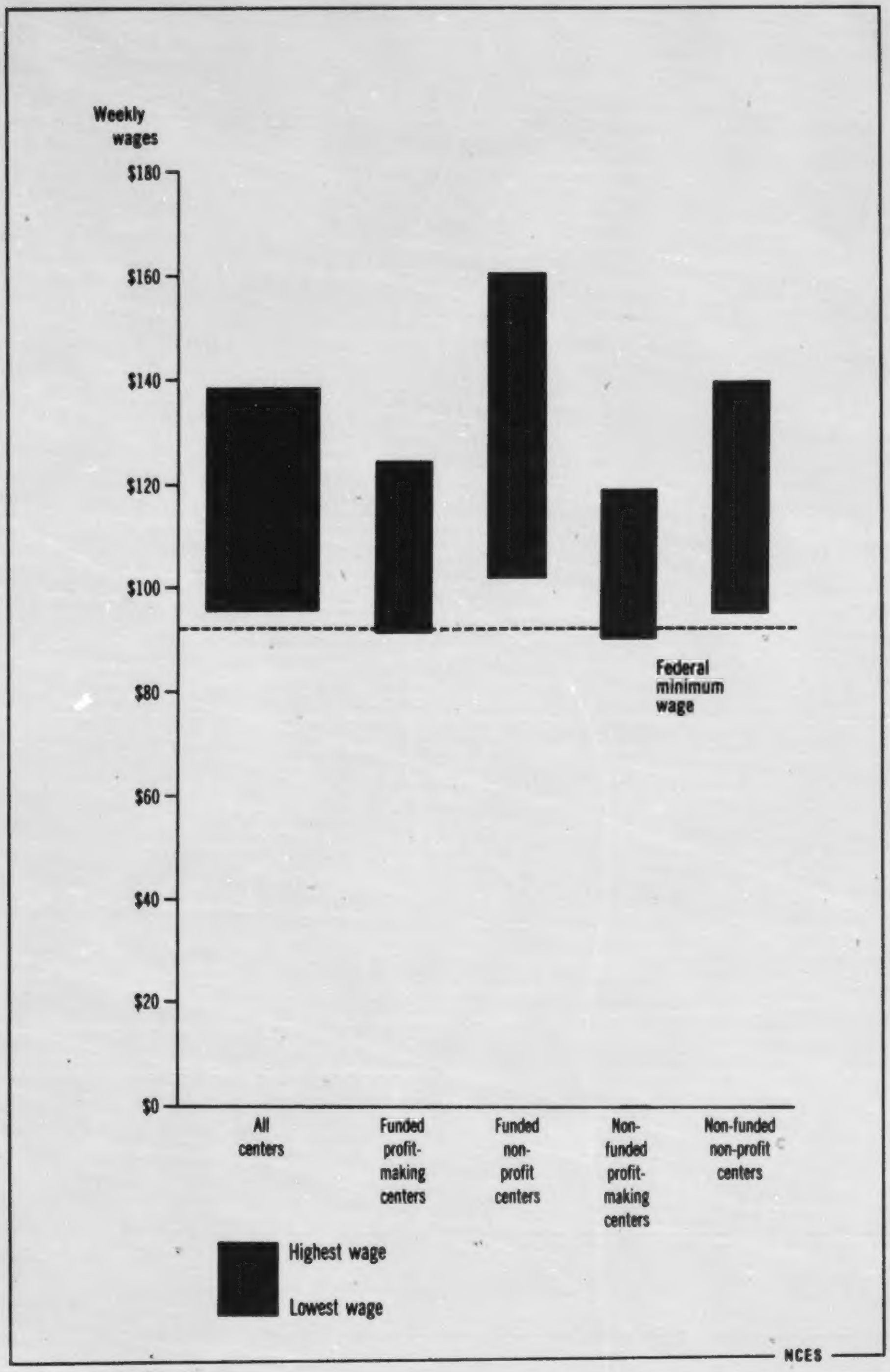


Table 5.14
Annual tuition and fees for nonpublic preprimary schools, by level of school and family income: October 1978

Level of school and family income	Number enrolled, in thousands		Tuition and fees							
			None	Under $300	$300 to $499	$500 to $999	$1,000 or more	Not reported	Mean	Median
				Percentage distribution					Amount	
Nonpublic nursery school										
All	1,237	100.0	1.3	41.7	18.4	12.7	20.3	6.0	$540	$335
Under $10,000	134	100.0	3.7	35.6	8.2	11.9	29.6	11.1	651	365
$10,000–$14,999	229	100.0	2.6	43.9	17.0	10.9	20.9	4.8	512	307
$15,000–$19,999	270	100.0	.0	46.1	21.2	10.0	19.0	3.7	492	317
$20,000–$24,999	241	100.0	2.1	40.3	22.4	13.3	16.6	5.4	501	338
$25,000 and over	301	100.0	.0	36.5	20.6	16.9	21.3	4.8	607	382
Not reported	62	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Nonpublic kindergarten										
All	496	100.0	2.6	32.7	22.0	21.2	16.2	5.2	520	377
Under $10,000	61	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
$10,000–$14,999	110	100.0	2.8	34.9	18.4	20.2	15.6	8.3	505	363
$15,000–$19,999	90	100.0	5.6	35.6	31.1	16.7	11.0	.0	390	338
$20,000–$24,999	80	100.0	3.8	31.6	24.0	21.5	15.2	3.8	463	380
$25,000 and over	120	100.0	1.7	17.5	21.7	30.8	28.3	.0	726	615
Not reported	36	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

[1] Base less than 75,000.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, unpublished data.

Chart 5.14
Tuition and Fees in Nonpublic Preprimary Schools by Family Income

Averaging about $500 a year, tuition and fees for nonpublic nursery school and kindergarten appeared unrelated to family income except at the highest income level.

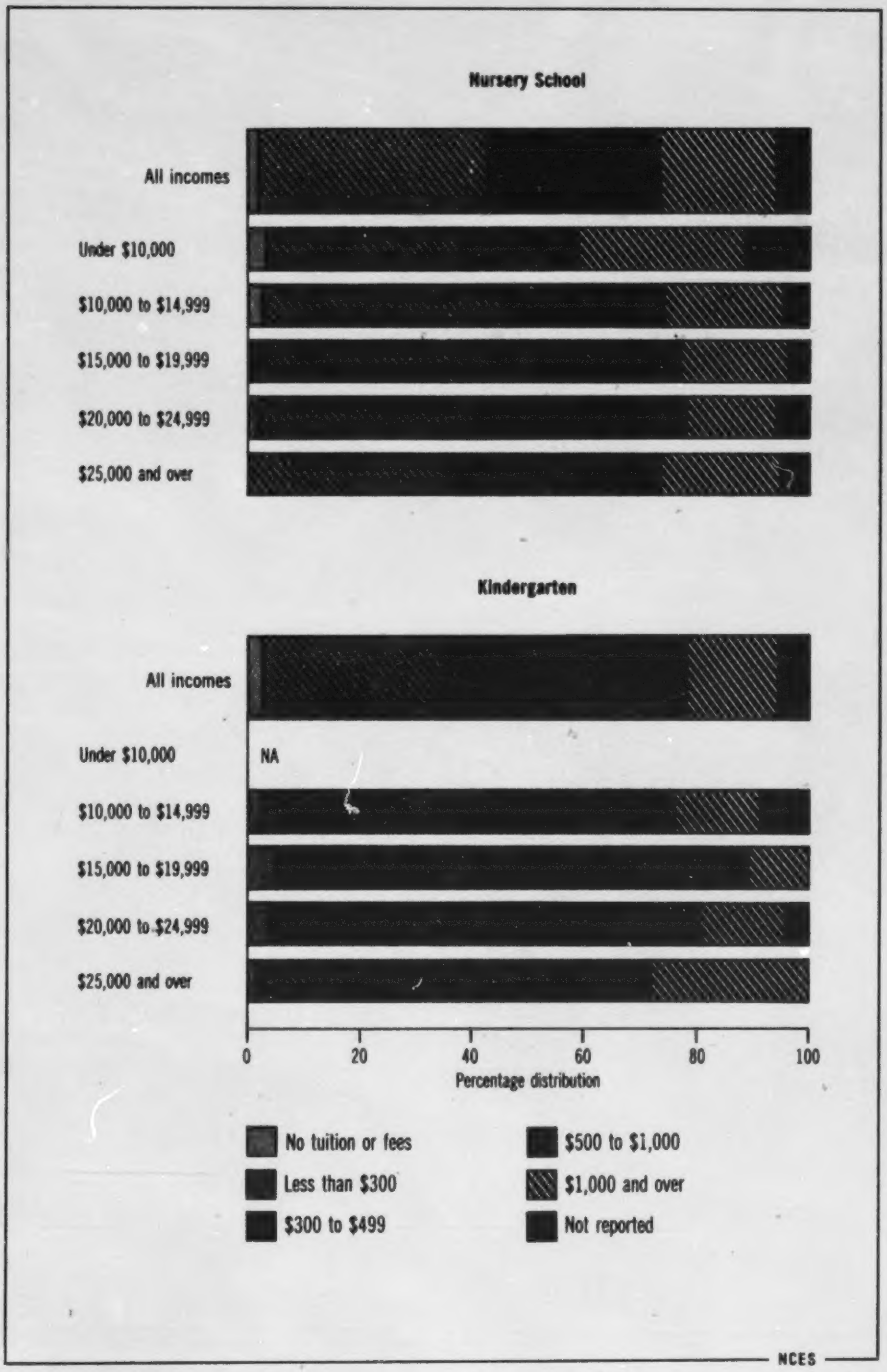


Table 5.15
Annual day care center expenditures, by funding status of centers: 1976–77

Item	All centers	Funded[1] centers: Profit	Funded[1] centers: Non-profit	Non-funded centers: Profit	Non-funded centers: Non-profit
Total expenditures, in millions	$1,286.3	$114.4	$616.1	$258.7	$297.2
Average center expenditures, by purpose					
Total	$70,300	$61,600	$98,700	$46,300	$64,400
Personnel	48,400	36,200	72,000	27,200	47,000
Supplies	10,600	9,800	12,800	8,600	10,100
Occupancy	6,600	9,000	6,700	7,700	4,200
Other	4,700	6,600	7,200	2,800	3,100
Percentage distribution, by purpose[2]					
Total	100	100	100	100	100
Personnel	69	61	73	63	73
Supplies	16	16	14	18	17
Occupancy	10	15	7	15	7
Other	5	8	6	5	4
Average expenditures per full-time equivalent (FTE) child	$1,630	$1,430	$2,190	$1,230	$1,430
Percentage distribution of centers, by expenditures per FTE child					
Total	100	100	100	100	100
Less than $1,000	26	19	9	41	32
$1,000 to $1,999	49	68	39	53	50
$2,000 to $2,999	17	10	33	5	11
$3,000 or more	9	3	19	2	6

[1] Denotes centers that enroll at least 1 child whose care is paid for at least in part by government funds.

[2] Calculated by averaging percentages across centers (e.g., average of percent of expenditures allocated to personnel). They differ slightly from percentages calculated by dividing average expenditures in a category by average total expenditures.

NOTE: Details may not add to totals because of rounding.

SOURCE: Abt Associates, Inc., *Day Care Centers in the U.S.: A National Profile, 1976–77*, sponsored by U.S. Department of Health, Education, and Welfare, Administration for Children, Youth and Families, 1979.

Chart 5.15
Day Care Center Expenditures per Full-Time Equivalent Child

In 1976–77, a plurality of day care centers spent between $1,000 and $1,999 per full-time equivalent child. Non-profit centers funded by the government spent more on the average than other types of centers.

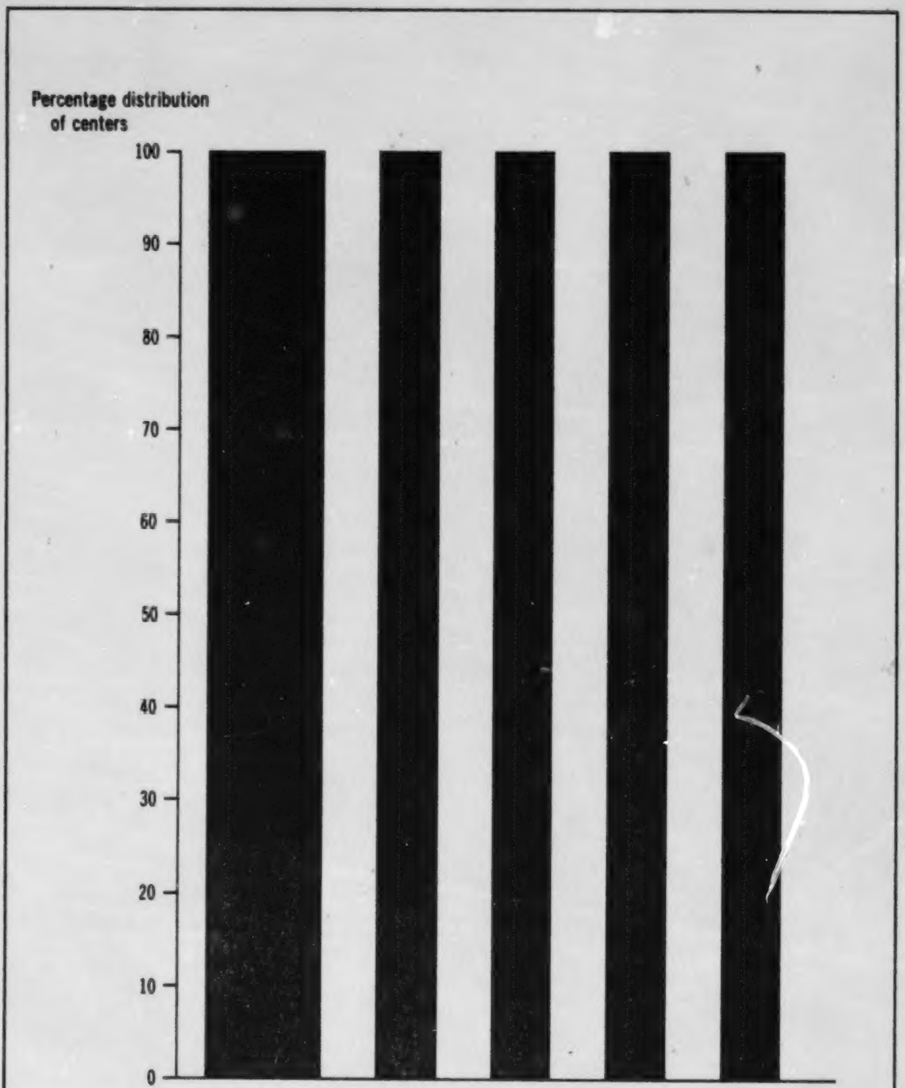


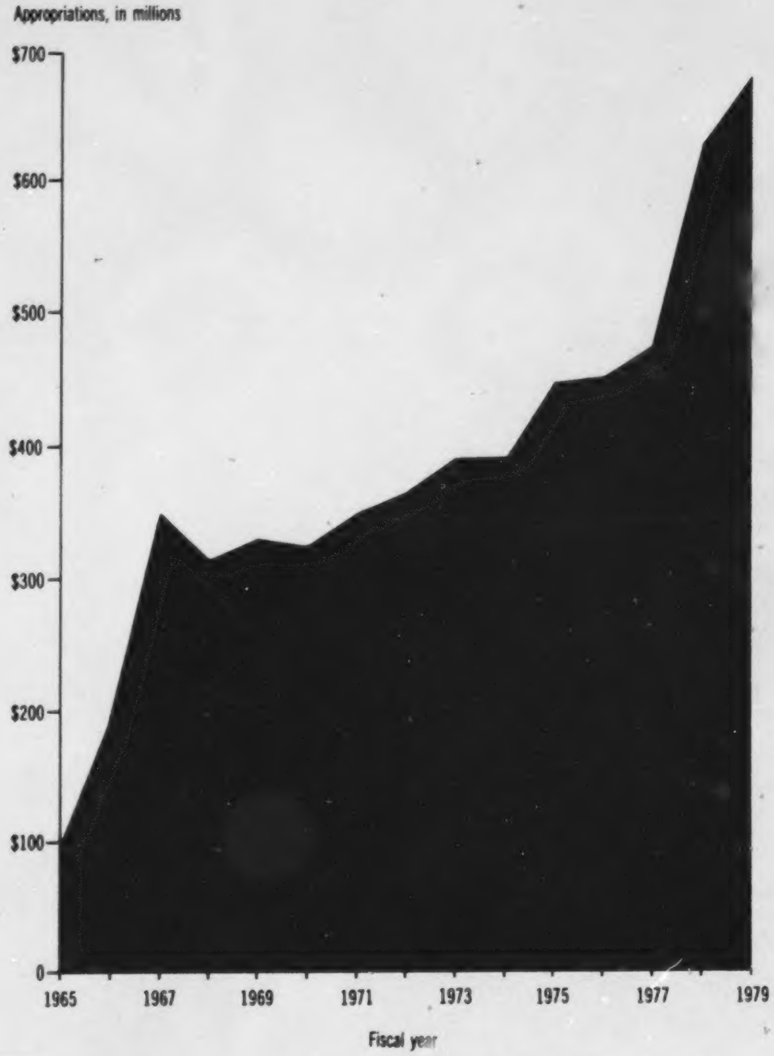
Table 5.16
Federal appropriations for Head Start programs: Fiscal year 1965 to 1979

Fiscal year	Appropriations
	(In millions)
1965	$ 96.4
1966	198.9
1967	349.2
1968	316.2
1969	333.9
1970	325.7
1971	353.5
1972	369.5
1973	392.2
1974	392.2
1975	441.0
1976	454.5
1977	475.0
1978	625.0
1979	680.0

SOURCE: U.S. Department of Health, Education, and Welfare, Administration for Children, Youth and Families, special tabulations.

Chart 5.16
Federal Appropriations for Head Start Programs

Federal funding for Head Start programs has increased sevenfold since 1965.



NCES

Table 5.17
Effects of preschool on later education performance of low-income children: Various years

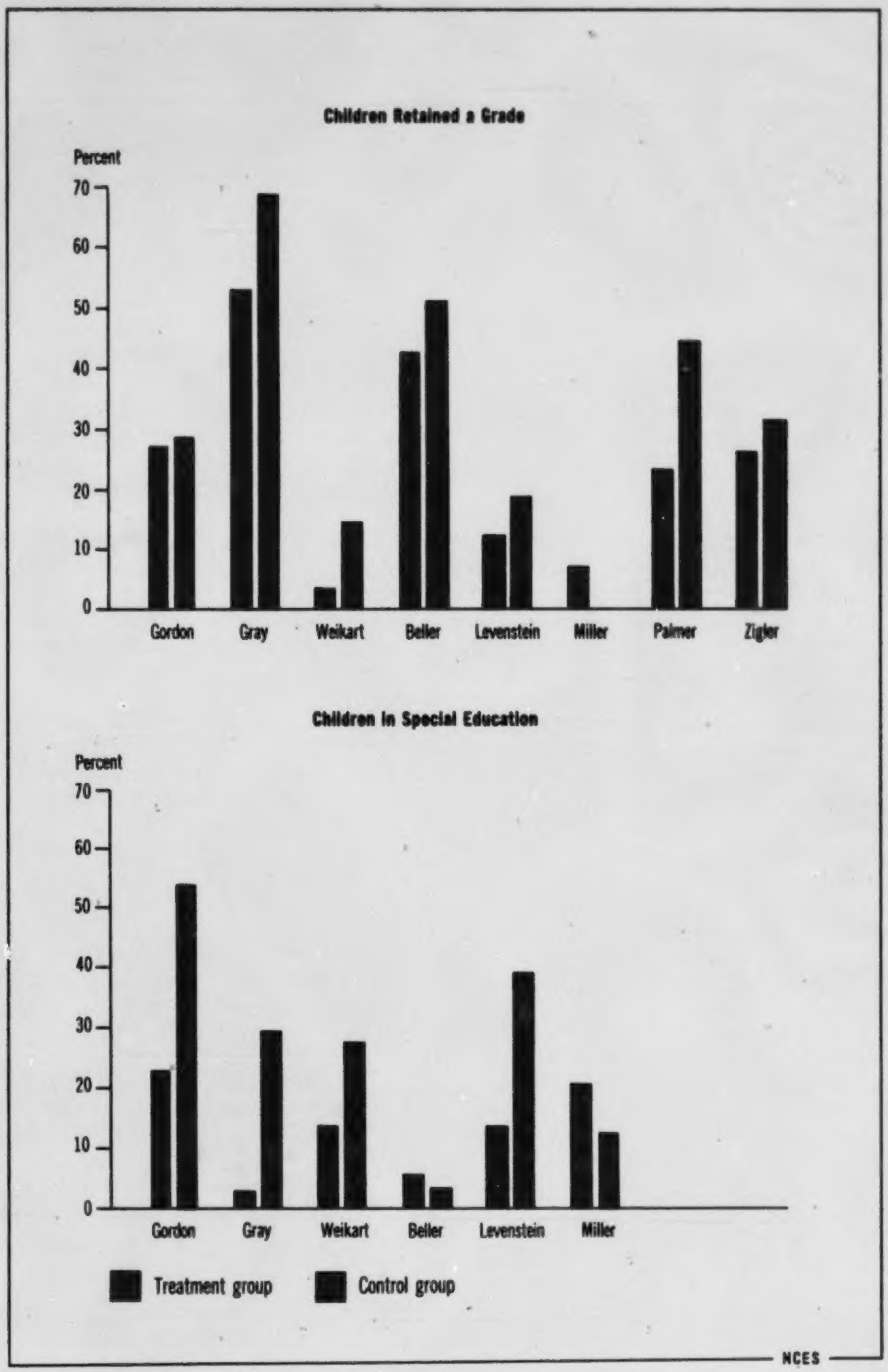
Project	Percent retained a grade			Percent in special education		
	Treatment group	Control group	Percent reduction	Treatment group	Control group	Percent reduction
Gordon	27.6	28.6	3.6	23.2	53.8	131.9
Gray	52.9	68.8	30.1	2.8	29.4	*950.0
Weikart	4.0	14.9	272.5	13.8	27.7	100.7
Beller	42.9	51.6	20.3	5.7	3.2	43.9
Levenstein	12.9	18.8	45.7	13.7	39.1	*185.4
Miller	7.8	.0	− 100.0	20.4	12.5	− 38.7
Palmer	24.1	44.7	*85.8	---	---	---
Zigler	26.6	32.3	21.4	---	---	---

*Statistically significant at the 0.02 level.

SOURCE: Consortium for Longitudinal Studies, *Summary: Effects after Preschool*, sponsored by the Education Commission of the States, and U.S. Department of Health, Education, and Welfare, Administration for Children, Youth and Families, 1979.

Chart 5.17
Effects of Preschool on Later Education

An analysis of studies conducted over time has found that low-income children with preschool experience were less likely to be held back a grade or placed in special education than children from similar backgrounds with no preschooling.



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Chapter 6

Adult and Occupational Education

Adult education and occupational education are two areas that are expected to grow in participation in the 1980's. The size of the population beyond compulsory school-age will increase in the decade, enlarging the market for adult education. The 1970's trend toward greater enrollment in occupational education is expected to continue into the decade as the labor market demand for skilled workers continues.

These areas of education are examined in this chapter in two sections. The adult education section begins with a profile of participants to suggest the representation in adult education of certain groups in the population. This is followed by a description of the range of credit objectives, administrators providing courses, and subjects taken in adult education. The occupational education section focuses first on participants and then on the schools and programs. The section concludes with a discussion of outcomes of occupational training.

Adult Education

Estimates of the adult population participating in educational activities vary according to the meanings ascribed to "adult," "participation," and "education." Under the broadest definition, that of adult education as life-long learning, it encompasses the whole range of learning throughout life, including formal and informal, inschool and out-of-school educational experiences. Although valid as a concept, life-long learning as a definition is too imprecise, in that virtually all adults would be counted as participants. At the other extreme, under a conventional classification of adult education as regular postsecondary instruction, the focus is too narrow, disregarding recent trends in participation and programs. As will be shown, adult education participants do differ from full-time postsecondary students on some important characteristics, and adult learning programs often do not fit into convenient instruction categories.

To describe the character and scope of adult education participation, it is necessary from the outset to use a definition that encompasses the part-time sector of regular instruction and also the many structured education activities offered by organizations other than schools. Thus, for the purposes of this chapter, the definition from the 1978 Adult Education Participation Survey will generally apply. By this definition, adult education consists of courses and organized educational activities other than those taken by full-time students in programs leading toward a high school diploma or an academic degree and in occupational programs of six months or more duration. It includes all courses taken for credit by part-time students. The participating population is defined as persons 17 years old and over. The definition differs somewhat from those used in previous surveys in that full-time students who are also engaged in part-time educational activities are included and full-time students in occupational programs of 6 months or more duration are excluded. A discussion of postsecondary vocational education is presented in the next section.

A look at the number and age structure of adult education participants suggests their unique character when compared to those of full-time postsecondary students. The number of adult education participants in 1978 was over 18 million, almost 40 percent greater than the number of full-time high school or college students 17 years old and over (entry 6.1). Among the 17- to 24-year-old age group, adult education participants comprised about 11 percent of the population and full-time high school and college students approximately 31 percent. In the next age group, 25- to 34-year-olds, the pattern was reversed, with adult education participants representing 20 percent and full-time students, less than 4 percent of the total. Thirteen percent of 35- to 54-year-olds and almost 7 percent of 55- to 64-year-olds participated in adult education activities, compared to under 1 percent in both age groups enrolled full time in school. Although participation declined with age, about 2 percent of persons 65 years old and over participated while under a tenth of a percent were enrolled full time.

It is difficult to present trends in participation from earlier surveys because of definitional changes. Data from the 1978 survey can be compared with 1975 findings by adding courses taken by full-time students in occupational programs of 6 months or more duration to the 1978 data. Using this method, the adult education participation rate was 12.5 percent of the population 17 years old and over in 1978, compared to 12.3 percent in 1975. The gain of .2 percentage points is insignificant, yet, it does translate into an increase of more than 1 million participants between 1975 and 1978. Although the rate has remained relatively constant, the size of the adult population has grown, meaning larger numbers of adults participating. The size of the adult population is projected to grow further throughout the 1980's, suggesting that if the participation rate remains constant, the number of adult education participants will continue to grow. This projected increase would run counter to the decline anticipated in full-time higher education enrollment.

Adult education participants were distinguished from full-time college students and the adult population in general by the relatively high representation of women. Of the 18 million adult education participants, over 10 million were women, or 57 percent of the total (entry 6.2). Among the two older age groups, female representation rose to 61 percent of the participants 55 to 64 years old and to 69 percent of the participants 65 years old and over. Although part of the overrepresentation may be a function of larger numbers of women in the older age groups, their rates of participation were also higher. The higher rate of women in adult education continues a trend noted in earlier surveys. In fact, most of the increase in the total number of participants from 1975 to 1978 can be attributed to greater participation among women.

Although female representation appeared more than equitable, disparities in racial/ethnic representation were evident in adult education participation. A look at trends in participation using earlier definitions suggests further that the disparities have increased over time. The two largest minority groups, blacks and Hispanics, were significantly underrepresented in relation to their population counts. The underrepresentation of blacks and Hispanics was greater in adult education than in higher education generally. Blacks had the lowest participation rates, about half the rate of total population while Hispanics had rates two-thirds that of the total population. These disparities in participation appeared to widen in the older age groups. The racial/ethnic representation in adult education distinguishes it from participation in the Federal Adult Basic and Secondary Program. Blacks and Hispanics comprised 5 and 3 percent, respectively, of adult education participants. By contrast, blacks and Hispanics each represented one-fifth of participants in the Federal program.

That adult education participants represent a rather homogeneous group is further substantiated by educational attainment levels reported in the 1978 survey. Adult education participants were almost twice as likely as the total adult population to have higher education experience, 57 percent compared to 30 percent (entry 6.3). Almost 33 percent of adult education participants had completed at least 4 years of college, in comparison to 14 percent of the total adult population. Although women in general were less likely than men to have gone beyond high school, 26 percent compared to 33 percent, a majority of female participants in adult education like their male counterparts had at least one year of college.

Participants in adult education were also distinguished from the general population by their income and occupational status. Approximately 61 percent of adult education participants had annual family incomes of $15,000 or more compared to 44 percent of the general adult population (entry 6.4). Participation rates tended to rise with higher family income, from under 5 percent in the lowest income category to over 18 percent in the upper income categories. White-collar workers appeared to be disproportionately represented among adult education participants; while they comprised one-third of the adult population, they made up over half of the adult education participants. Almost one-third of all professional, technical, and kindred workers participated in adult education activities. Non-college teachers had the highest participation rates, almost 40 percent participated in organized educational activities in 1978. Blue-collar and farm workers, the unemployed, and persons not in the labor force were considerably underrepresented.

The income and occupational distributions of participants were reflected to some extent in metropolitan participation rates. Central city areas with higher concentrations of the poor and unemployed had lower adult education participation rates than suburban areas. Rural farm areas had the lowest rates, consistent with the low participation of agricultural workers. Regional differences were also apparent; the Northeast and South were lower than the National rate, while the West was considerably higher. It is noteworthy that participation in Western non-metropolitan areas was as high as rates in metropolitan areas located in other regions.

Although adult education participants may be a rather homogeneous group, the activities in which they engage and the organizations providing such activities were quite diverse. No single category of course administrator provided courses to more than one-fifth of all participants. Two-year colleges and vocational-technical institutes provided adult education to about 19 percent of all participants, 4-year colleges and universities to 18 percent, and trade and business schools to 9 percent. Thus postsecondary collegiate and noncollegiate schools combined accounted for 46 percent of the adult education market. This suggests that another 54 percent of participants took courses through administrators other than those which traditionally have offered educational services to adults. Although institutions of higher education represented only a portion of the adult education market, the number providing noncredit activities has grown considerably over the last decade. Data supplied by institutions of higher education indicate that 2,375 institutions out of a total of 3,086 offered non-credit adult and continuing education activities during the 1977–78 school year (entry 6.5). By comparison in the 1967–68 school year, only 1,102 institutions offered non-credit activities. The institutions reported over 10 million registrations in 1977–78, almost twice as many as 10 years previously.

Most adult education activities were non-credit courses, that is, they were not taken for higher education degree-credit or occupational certification (entry 6.6). Credit objectives, however, did vary by the age group of the participants; the proportion of courses taken for credit declined with increasing age. The 17- to 24-year-old group was more likely than the older groups to have participated in courses leading to higher education degrees. Although courses taken by 25- to 34-year-olds were slightly less likely to be for credit, almost 10 percent of the courses were toward degree work beyond the bachelor's level. Courses for occupational certification or licensing were prevalent among participants 35 to 64 years old, representing about 17 percent of all courses taken by this group. Of courses taken by participants 65 years old and over, approximately 8 percent were for certification or licensing and 3 percent were for higher education degree-credit.

Although most courses were not for occupational certification or degree-credit, the majority of courses were taken for job-related reasons (entry 6.7). Thirty-nine percent of courses were taken by participants to advance in their current job, 10 percent to obtain a new job and 3 percent for other job-related reasons. Courses taken for American citizenship represented less than 1 percent, for general education 12 percent, and for personal or social reasons 34 percent. The reasons varied by the type of institution or organization administering the course. A majority of courses offered by elementary/secondary schools, private instructors, or community organizations were for personal or social enrichment. Four-year institutions of higher education were more likely than 2-year institutions or vocational-technical institutes to provide courses cited as job-related by participants.

Adult education courses were given mainly through group instruction (entry 6.8). Group instruction accounted for about 88 percent of all courses and this proportion differed only slightly by age group of participants. Although individual instruction was the second most prevalent means used for conducting courses, it accounted for under 5 percent of the total courses. No one subject accounted for more than one-fifth of all courses in adult education (entry 6.9). Business courses were the most frequently taken, followed by engineering and health care services, representing 19, 15, and 11 percent, respectively, of the total courses.

A majority of courses were paid for by the participants or their families, averaging about $70 per course (entry 6.10). The second most prevalent source of payment was public funding, accounting for 18 percent of all courses. This was followed by business or industry, comprising 16 percent of the total. Employers paid for 23 percent of all courses.

Less than 7 percent of the courses were dropped by participants (entry 6.11). The most frequent reason specified for dropping courses was illness of self or care of family members, accounting for 17 percent of the courses dropped. Ten percent of the courses dropped were because of changes in residence or job. Scheduling difficulty in terms of inconvenient time or too much to do was more often mentioned than inconvenient location or financial problems.

Occupational Education

Occupational education prepares individuals for gainful employment, assists them in making informed occupational choices, and upgrades or updates the skills of those already in an occupational field. In the United States, occupational education is offered at the secondary level by public schools and at the postsecondary level by public and private collegiate and noncollegiate institutions.

At the secondary level, approximately 4.6 million students were reported to have received training in occupational programs in 1976. This number included the 1.8 million taking courses such as typing in office programs and the 1.4 million taking courses such as shop in trades and industry programs. These data do not separate those students in high schools who take occupational courses for job training from those who take them to supplement college-preparatory courses or for personal reasons. At the postsecondary level, enrollment data for students taking occupational programs in colleges are not disaggregated from total enrollment in these institutions. Because of these definitional distinctions, this section primarily focuses on occupational education in postsecondary noncollegiate schools.

In 1978, nearly 1.8 million students were enrolled in noncollegiate postsecondary schools with occupational programs. Of this number 265,600 were enrolled in correspondence programs. The large majority of the students, nearly 1.5 million, participated in occupational programs in noncollegiate noncorrespondence schools (entry 6.12). This number represented an increase of greater than 11 percent over 1974 enrollment, with all of the increase occurring in private schools. In 1978 enrollment in private noncollegiate schools with occupational programs was more than double that of public schools. Approximately 1,043,400 students participated in programs in the private sector compared with 887,400 in 1974. For public schools the data show 453,700 students in 1974 increasing to 468,400 in 1976 before dropping to 451,800 in 1978.

Blacks and Hispanics were represented in occupational programs in larger proportions than in the general population (entry 6.13). Of the programs whose length was greater than 3 months, white enrollment comprised 67 percent of the total, blacks represented nearly 18 percent, and Hispanics slightly greater than 6 percent. Only in the program area of health occupations did the representation of these groups approximate their representation in the general population. Whites were overrepresented only in agri-business programs where they made up 92 percent of total enrollment.

Occupational programs have been a source of specific job training for a significant proportion of students seeking to supplement college educations. Nearly 28 percent of the students enrolled in occupational programs in 1979 had prior postsecondary education experiences (entry 6.14). Nearly 6 percent had completed an associate degree or some higher level of collegiate education.

Students enrolled in occupational programs had a higher level of educational attainment than their parents. Only 8 percent of these students had not completed high school compared to approximately one-third of their mothers and fathers. Forty-eight percent of students in occupational programs were working while attending school and 24 percent were looking for work.

The number of noncollegiate postsecondary schools with occupational programs dropped during the same period that enrollment grew (entry 6.15). In 1974 there were 8,716 such schools compared with 7,625 in 1978, a decrease of greater than 12 percent. The large majority, 90 percent, of these schools were under private control and most were proprietary (operated for profit).

For comparison purposes it may be noted that more than 11 million students were enrolled in just over 3,000 colleges and universities in 1978, while only 1.5 million students were enrolled in more than double that number of schools offering noncollegiate postsecondary occupational training. An examination of the organization of occupational training schools reveals that 58 percent of the schools enrolled fewer than 100 students and only 8 percent enrolled 500 or more students in 1978 (entry 6.16). More than three-fourths of these schools were independent, that is, not affiliated with other schools or businesses; 57 percent of the students attended this type of school. Sixteen percent of the schools were part of a chain of schools attended by 18 percent of the students. While only 7 percent of the schools were branches of a business not related to education, 25 percent of the students attended this type of school.

One reason for the large number of postsecondary occupational schools and their small enrollment size is that many of them offered only single programs or a narrow range of programs. Private proprietary schools made up over three-fourths of the total in 1978, and 76 percent of these were one of three special-purpose types: business/office represented 21 percent, cosmetology/barber represented 37 percent, and flight schools made up 18 percent of the total (entry 6.17). Most of the nonprofit schools, 75 percent, were hospital schools that offered programs in paraprofessional health or medical fields such as nursing or radiologic technology.

Public schools were more likely to offer a wide range of programs. Sixty-two percent of public schools were typed as vocational/technical because they offered a wide variety of occupational programs or clusters of programs; less than 2 percent of private schools were so designated. As entry 6.16 shows, public schools were more likely to be larger in terms of enrollment size; nearly one-third had enrollments of 500 or more students compared with less than 6 percent of private schools. Two other types of public schools were prominent: 18 percent were hospital schools and 14 percent were allied health. The distinction between the two is that hospital schools are affiliated with hospitals and offer programs such as nursing and radiologic technologies that require 2 or 3 years for completion, while allied health schools, which are not affiliated with hospitals, offer programs such as medical and dental assisting that generally require less than 2 years to complete.

Public postsecondary schools with occupational training offered the majority of programs in the areas of agri-business and home economics (entry 6.18). Private schools offered the majority of programs in marketing/distribution, health, business/office, technical, and trades/industry areas. Forty percent of all programs offered were in the area of trades/industry which includes cosmetology, the largest proportion of all programs in this program area. The business/office program area comprised the next largest proportion with 26 percent and within this area one-half of all programs were secretarial, typing, and general office programs.

Because public schools with occupational programs receive State and local government support, tuition charges for their programs are much lower than for private school programs (entry 6.19). In 1978, the mean charge for programs offered by public schools was $345 compared with $1,616 for private school programs. With the exception of private agri-business programs (which comprised only 0.1 percent of all private school programs), the most expensive of the occupational program areas in both public and private schools were technical programs in 1978. Programs in this area include automobile technology, electronic technology, scientific data processing, and commercial pilot training, all of which require expensive training equipment and generally take longer to complete.

As entry 6.19 shows, the average length of the programs offered by public schools was greater than those offered by the private sector. The State and local government involvement in public schools, while allowing for lower tuition charges, places more extensive course requirements on public school students for program completion. These requirements may include subject matter not directly related to specific occupations. Private schools, which tend to offer special-purpose programs, design their curriculums with courses directly related to the occupation.

As shown in entry 6.12, less than one-third of the enrollment in occupational programs was in public schools in 1978, in spite of the lower costs of public school programs. The larger enrollment in private schools may reflect their efforts to attract students by offering extensive job placement services and advertising the success of these efforts. More significantly, the shorter length of programs in private schools allows a student to complete job training with a marketable skill and start earning income sooner than would be possible if enrolled in a public school program.

Noncollegiate postsecondary schools with occupational programs are a major source of supply of skilled entrants to the labor force. However, as shown in entry 6.14, nearly one-half of the students enrolled in these programs already had jobs, so those students with successful training outcomes do not necessarily represent a new supply of skilled workers. Some employed students may take programs to update their skills on their current jobs or to get a promotion; others may take programs to gain another skill to change from one field to another. Whether new or updated, the skills obtained through these programs are needed in the labor force, and students who obtain them can enter or continue in the job market with an advantage over their unskilled counterparts.

Outcomes of postsecondary occupational programs are measured in a different way from those of secondary or higher education. In the latter two types of education, outcomes are determined by the number of high school diplomas or degrees awarded. In occupational programs, all students, by definition, have some occupational objective in mind. To measure outcomes of this type of education requires inclusion not only of those who completed a program, but also of those who left a program with a marketable skill prior to program completion. Some fields, such as nursing and dental assisting, require a diploma or certificate of completion as a major qualification of employment; others, such as cosmetology and barbering are governed by State laws that require completion of a specific number of training hours. Most occupational programs, however, do not have such requirements. For example, if a typing student can type 50 words per minute and find employment at this skill level, there is no need for that student to remain in a school that requires a student to type 60 words per minute for program completion.

Data currently used to measure outcomes of occupational training include the category, "continued or dropped out." Because some programs take much longer to complete than others, the proportion of students who are continuing in a program will distort comparisons of the completion rate data among programs to some extent. In the 1980 survey, the two categories "continued" and "dropped out" will be reported separately so that both completion rates and drop-out rates can be determined without distortion caused by the continuation rates. With this caveat in mind, data from the 1978 survey may be examined.

A higher proportion (70 percent) of private school students than public school students (55 percent) completed or left programs with a marketable skill in 1978 (entry 6.20). Reasons for the difference include the greater commitment on the part of students enrolled in private school programs in terms of costs, and the shorter amount of time required for completion. Another reason for the difference may be the types of programs that dominate in the private sector. For example, in the area of marketing/distribution, 81 percent of the students completed private school programs, 9 percent left with a marketable skill, and 10 percent continued or dropped out; for public schools the data are 53, 6, and 41 percent, respectively. But the majority of private school students in this major program area were enrolled in real estate programs offered by private schools that took an average of only 75 hours to complete.

Table 6.1
Educational participation of population 17 years old and over, by type of participation and age group: Year ending May 1978

Age group	Total	Participants in adult education	Full-time high school or college students	Full-time vocational students	Non-participants not full-time students	Other
			Number in thousands			
Total	154,496	18,197	11,553	1,323	116,774	7,712
17–24 years	31,730	3,563	9,954	611	16,666	1,566
25–34 years	32,881	6,596	1,182	433	23,628	1,333
35–54 years	46,787	6,091	381	238	37,423	2,783
55–64 years	20,391	1,395	24	21	17,804	1,160
65 years and over ...	22,707	551	11	19	21,252	871
			Percentage distribution			
Total	100.0	11.8	7.5	.9	75.6	5.0
17–24 years	100.0	11.2	31.4	1.9	52.5	4.9
25–34 years	100.0	20.1	3.6	1.3	71.9	4.1
35–54 years	100.0	13.0	.8	.5	80.0	5.9
55–64 years	100.0	6.8	.1	.1	87.3	5.7
65 years and over ...	100.0	2.4	([1])	.1	93.6	3.8

[1] Less than 0.05 percent.

NOTE: Details may not add to totals because of duplicate counts, i.e., a participant in adult education may also be a full-time high school or college student and/or a full-time vocational student.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Participation in Adult Education* and unpublished tabulations.

Chart 6.1
Educational Participation by Age Group

Adults 25 to 34 years old represented the largest group of participants in adult education. One-fifth of this age group participated in adult education courses or activities.

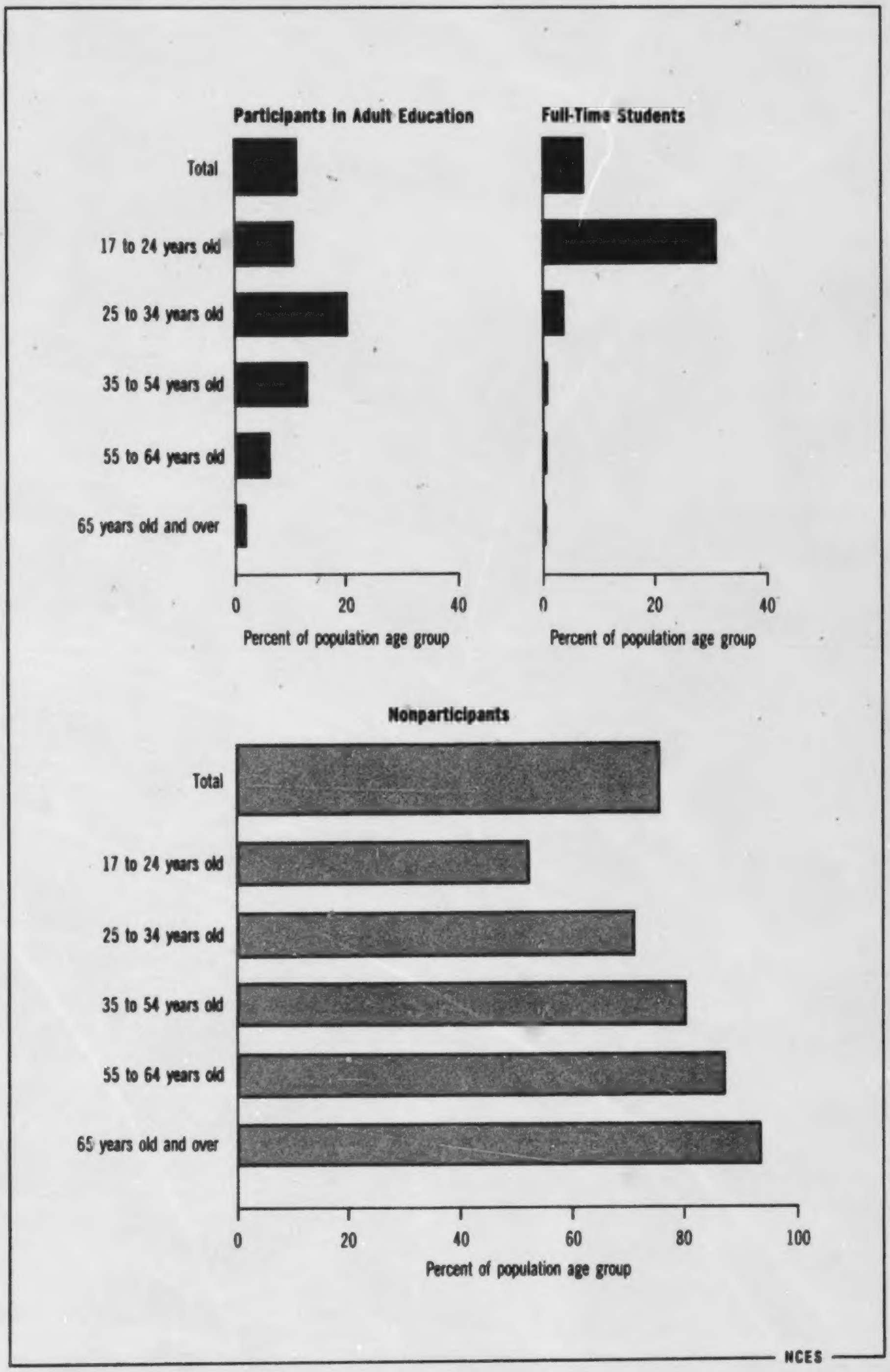

Table 6.2
Participants in adult education, by age group, sex, and racial/ethnic group: Year ending May 1978

Sex and racial/ethnic group	Total	17–24 years	25–34 years	35–54 years	55–64 years	65 years and over
			Number in thousands			
Total	18,197	3,563	6,596	6,091	1,395	551
White, non-Hispanic	16,350	3,131	5,862	5,520	1,315	521
Black, non-Hispanic	900	203	369	255	49	24
Hispanic	613	179	222	196	13	4
Other	334	50	143	121	18	2
Male	7,820	1,491	2,985	2,630	543	171
White, non-Hispanic	7,094	1,309	2,696	2,411	516	162
Black, non-Hispanic	338	89	137	86	20	7
Hispanic	260	78	93	82	4	2
Other	128	15	59	51	2	1
Female	10,377	2,073	3,611	3,461	852	380
White, non-Hispanic	9,255	1,823	3,166	3,109	798	359
Black, non-Hispanic	562	114	232	169	29	17
Hispanic	353	101	129	113	8	2
Other	207	34	84	70	16	2
			Participants as a percent of population subgroup			
Total	11.8	11.2	20.1	13.0	6.8	2.4
White, non-Hispanic	12.7	12.4	21.9	14.2	7.4	2.6
Black, non-Hispanic	5.6	5.1	10.6	5.4	2.8	1.3
Hispanic	8.3	9.2	12.1	8.1	2.1	.8
Other	12.8	8.4	19.8	14.7	8.2	.8
Male	10.7	9.7	18.7	11.7	5.6	1.8
White, non-Hispanic	11.6	10.5	20.3	12.8	6.1	2.0
Black, non-Hispanic	4.8	4.9	8.9	4.0	2.5	.9
Hispanic	7.4	8.2	11.0	7.0	1.4	.8
Other	10.8	5.4	18.7	14.1	1.9	.8
Female	12.7	12.7	21.3	14.3	7.9	2.8
White, non-Hispanic	13.7	14.2	23.3	15.6	8.5	3.0
Black, non-Hispanic	6.4	5.3	11.9	6.5	3.0	1.5
Hispanic	9.3	10.3	13.1	9.3	2.5	.7
Other	14.6	10.7	20.6	15.2	14.3	1.7

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Participation in Adult Education* and unpublished tabulations.

Chart 6.2
Participants in Adult Education by Sex and Racial/Ethnic Group

Among all age groups, males participated in adult education less often than females, and blacks and Hispanics participated less often than other racial/ethnic groups.

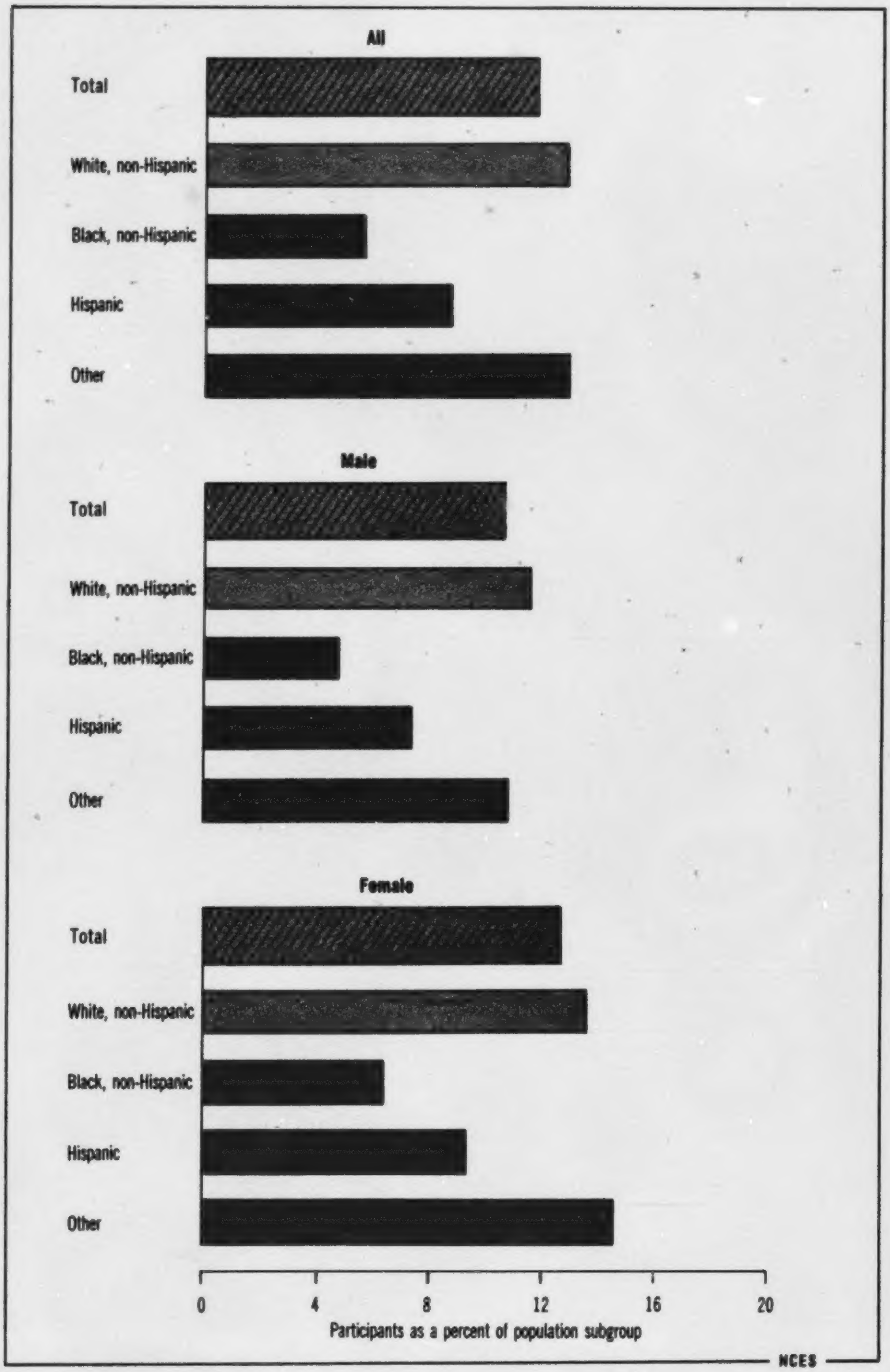

Table 6.3
Educational attainment of population, 17 years old and over, and of participants in adult education: Year ending May 1978

Highest level of education completed	Total population	Participants in adult education	Total population	Participants in adult education
	Number in thousands		Percentage distribution	
Total	154,496	18,197	100.0	100.0
Less than 9th grade	24,502	432	15.9	2.4
9th to 11th grade	27,589	1,371	17.9	7.5
4 years of high school	56,847	6,087	36.8	33.5
1 to 3 years of college	24,046	4,363	15.6	24.0
4 years of college	13,100	3,349	8.5	18.4
5 or more years of college	8,412	2,596	5.4	14.3
Male	72,930	7,820	100.0	100.0
Less than 9th grade	11,738	184	16.1	2.4
9th to 11th grade	12,733	516	17.5	6.6
4 years of high school	24,205	2,276	33.2	29.1
1 to 3 years of college	11,848	1,837	16.2	23.5
4 years of college	6,958	1,551	9.5	19.8
5 or more years of college	5,449	1,456	7.5	18.6
Female	81,565	10,377	100.0	100.0
Less than 9th grade	12,764	248	15.6	2.4
9th to 11th grade	14,856	855	18.2	8.2
4 years of high school	32,641	3,811	40.0	36.7
1 to 3 years of college	12,199	2,527	15.0	24.4
4 years of college	6,142	1,798	7.5	17.3
5 or more years of college	2,963	1,140	3.6	11.0

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Participation in Adult Education* and unpublished tabulations.

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Chart 6.3
Educational Attainment of Adults and Participants

Participants in adult education had attained more years of schooling than the general adult population. A majority of both male and female participants had some college experience compared to only one-third of the general population.

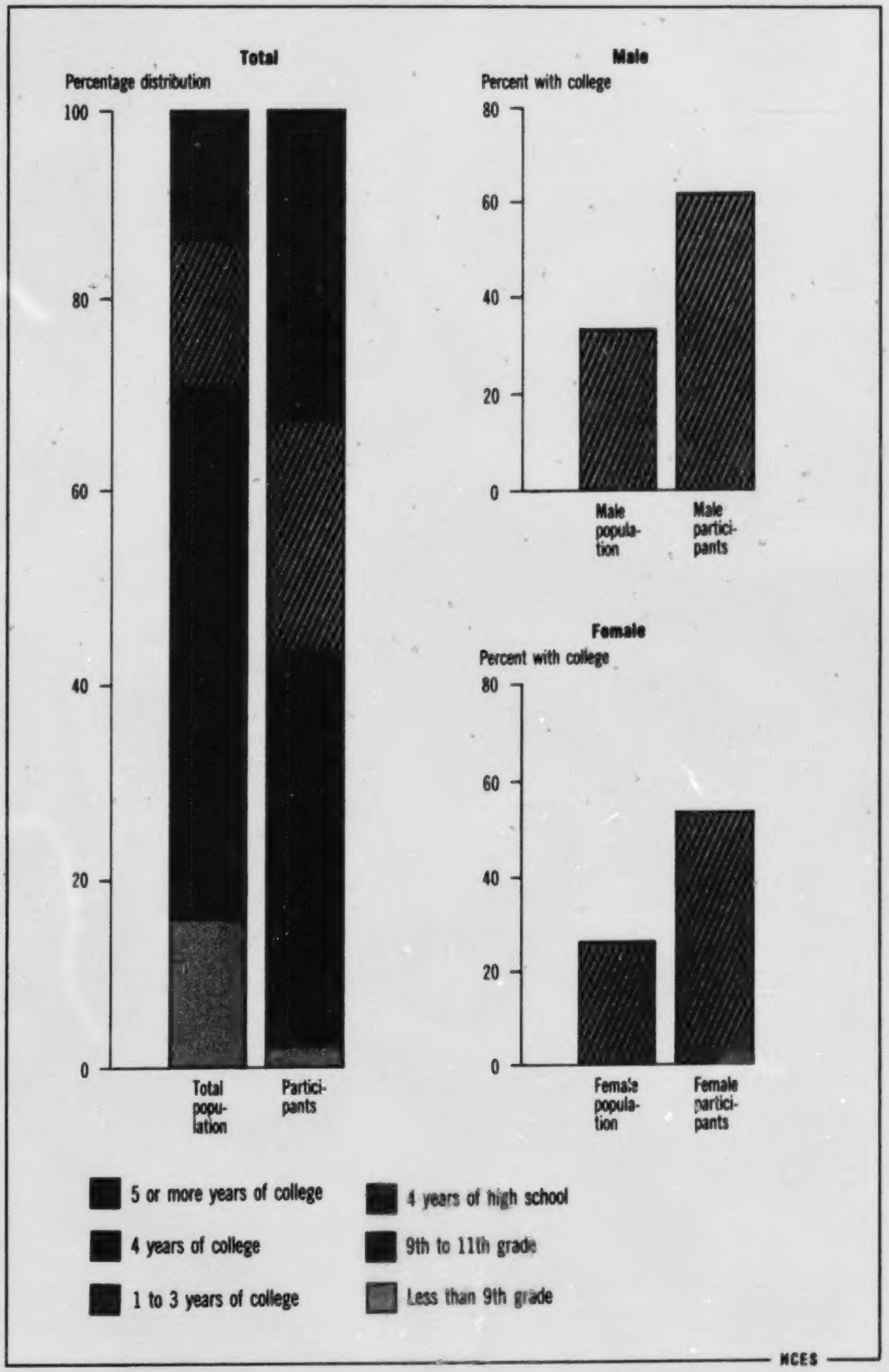

Table 6.4
Income, occupational status, metropolitan status, and regional distribution of population 17 years old and over, and of participants in adult education: Year ending May 1978

Characteristics	Total population: Number in thousands	Total population: Percentage distribution	Participants in adult education: Number in thousands	Participants in adult education: Percentage distribution	Participants as a percent of population subgroup
Annual family income					
Total	154,496	100.0	18,197	100.0	11.8
Under $5,000	18,699	12.1	916	5.0	4.9
$5,000–$7,499	14,453	9.4	907	5.0	6.3
$7,500–$9,999	12,638	8.2	1,231	6.8	9.7
$10,000–$14,999	28,299	18.3	3,196	17.6	11.3
$15,000–$24,999	41,726	27.0	6,315	34.7	15.1
$25,000–$49,999	22,704	14.7	4,167	22.9	18.4
$50,000 and over	3,480	2.2	637	3.5	18.3
Not reported	12,497	8.1	827	4.5	6.6
Occupational status					
Total	154,496	100.0	18,197	100.0	11.8
Total employed, all occupation groups	92,537	59.9	14,101	77.5	15.2
Professional, technical, and kindred workers	14,493	9.4	4,733	26.0	32.7
Teachers, except college	3,304	2.1	1,330	7.3	40.2
College teachers	537	.4	129	.7	24.0
Other	10,651	6.9	3,274	18.0	30.7
Managers and administrators, except farm	10,017	6.5	1,634	9.0	16.3
Sales workers	5,751	3.7	939	5.2	16.3
Clerical workers	16,408	10.6	2,716	14.9	16.6
Craftsmen and kindred workers	12,228	7.9	1,383	7.6	11.3
Operatives, except transport	10,500	6.8	639	3.5	6.1
Transport equipment operatives	3,514	2.3	201	1.1	5.7
Nonfarm laborers	4,734	3.1	272	1.5	5.8
Service workers, including private household	12,164	7.9	1,365	7.5	11.2
Farmers, farm workers, laborers, and foremen	2,728	1.8	220	1.2	8.1
Total unemployed	5,316	3.4	545	3.0	10.2
Total not in labor force	56,643	36.7	3,551	19.5	6.3
Metropolitan status					
Total	154,496	100.0	18,197	100.0	11.8
In Standard Metropolitan Statistical Area (SMSA)	104,611	67.7	13,342	73.3	12.8
In central cities	44,356	28.7	4,864	26.7	11.0
Outside central cities	60,255	39.0	8,479	46.6	14.1
Not in Standard Metropolitan Statistical Area (SMSA)	49,885	32.3	4,856	26.7	9.7
Rural nonfarm and urban	45,371	29.4	4,508	24.8	9.9
Rural and farm	4,513	2.9	346	1.9	7.7
Region					
Total	154,496	100.0	18,197	100.0	11.8
Northeast	35,891	23.2	3,630	20.0	10.1
North Central	41,202	26.7	5,033	27.7	12.2
South	49,423	32.0	5,003	27.5	10.1
West	27,979	18.1	4,532	24.9	16.2

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Participation in Adult Education* and unpublished tabulations.

Chart 6.4
Characteristics of Participants in Adult Education

Adults with higher incomes, in professional work, living in metropolitan suburbs, or from the West participated most often in adult education.

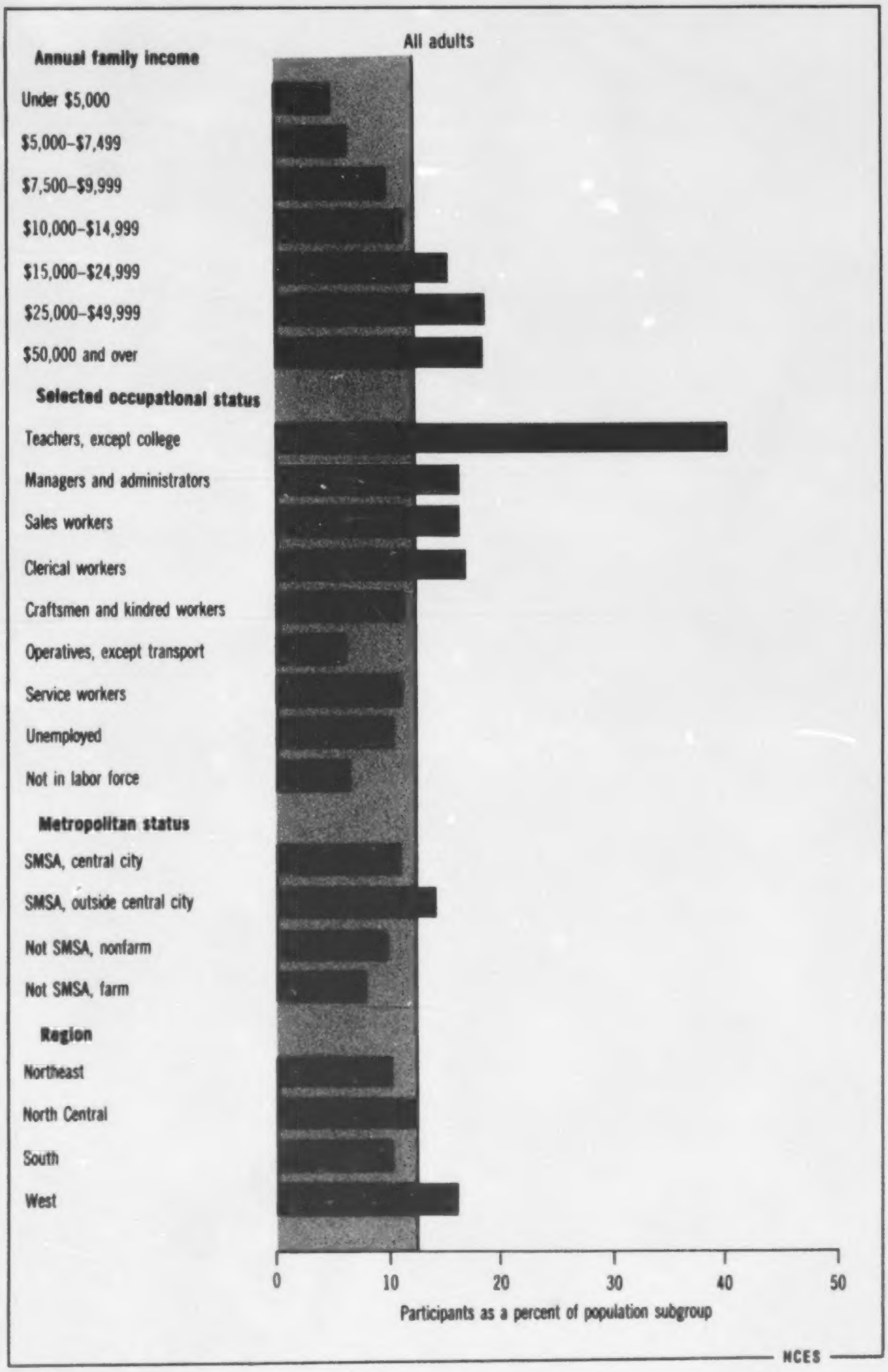

Table 6.5

Institutions of higher education offering noncredit adult and continuing education activities, by level and total registrations in noncredit adult and continuing education activities: School year ending 1968, 1976, and 1978

Level	1968	1976	1978
		Number of institutions	
Total	**1,102**	**2,225**	**2,375**
Universities	146	157	160
Other 4-year colleges	534	1,076	1,236
2-year colleges	422	992	979
		Number of registrations	
Total	**5,643,958**	**8,833,988**	**10,154,128**
Universities	[1]4,153,848	2,531,985	2,691,211
Other 4-year colleges	702,031	2,123,978	2,229,410
2-year colleges	788,079	4,178,025	5,233,507

[1] Data not comparable with later surveys because it includes Cooperative Extension Service registrations which were not reported in later surveys.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Noncredit Activities in Institutions of Higher Education, 1967–68* and *Adult Education: Noncredit Activities in Institutions of Higher Education for the Year Ending June 30, 1976* and *Survey of Noncredit Activities of Colleges and Universities for the Year Ending June 30, 1978.*

Chart 6.5
Noncredit Adult and Continuing Education Activities

The number of higher education institutions offering noncredit adult and continuing education activities doubled between 1967–68 and 1977–78.

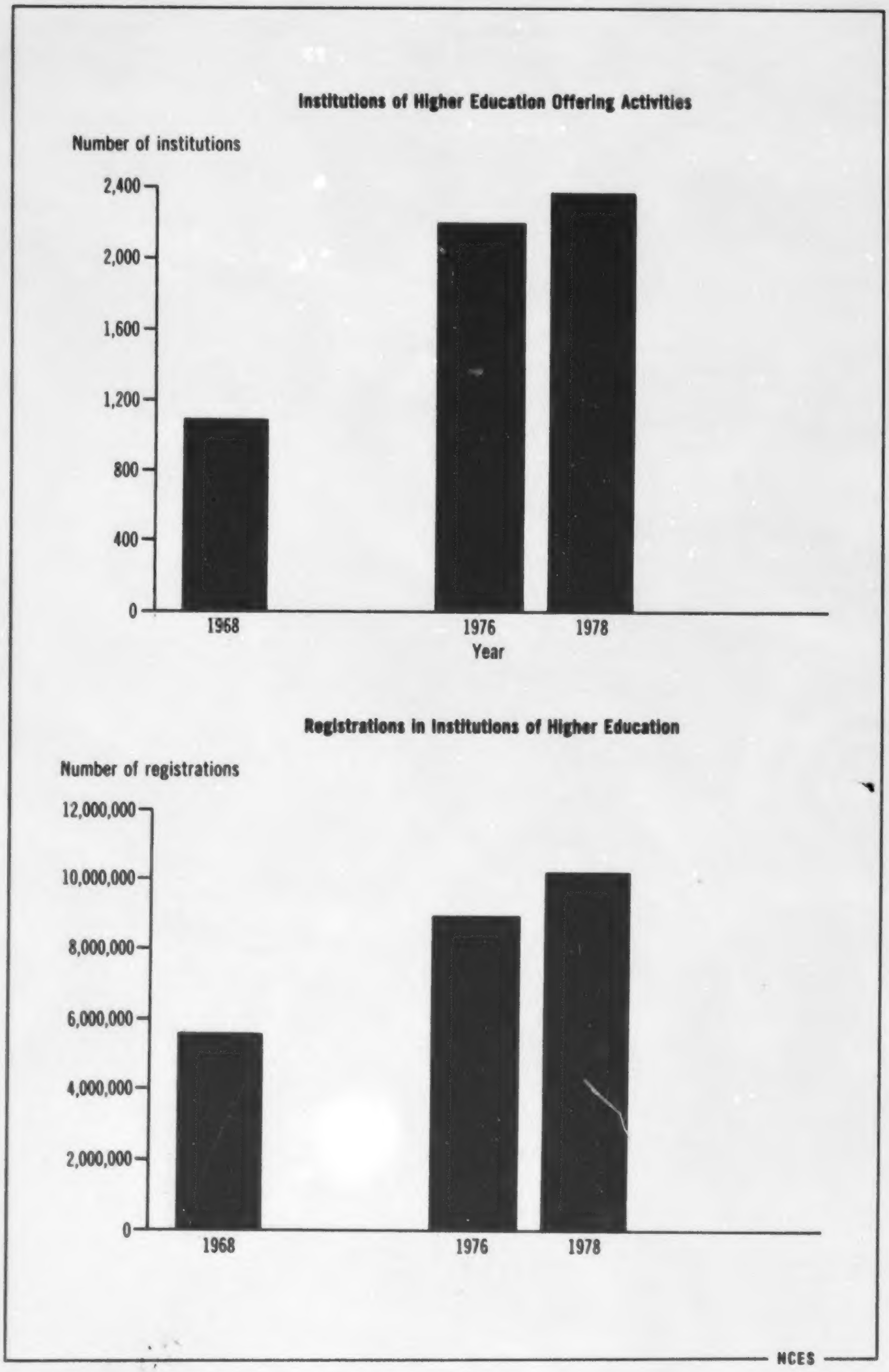

Table 6.6
Selected credit objectives of participants in adult education courses, by age group: Year ending May 1978

Selected credit objectives	Total	17–24 years	25–34 years	35–54 years	55–64 years	65 years and over
			Number of courses in thousands			
Total	28,894	5,607	11,067	9,433	2,031	757
			Percent of courses			
8th grade certificate	.1	0	([1])	([1])	0	.9
High school diploma	2.8	7.7	1.9	1.6	1.0	.5
Certificate or license	**16.1**	**15.2**	**15.5**	**17.8**	**17.0**	**7.5**
Certificate in vocational or occupational program	6.5	8.2	6.5	6.1	5.6	1.5
Of less than 6 months duration	4.8	5.5	4.8	4.8	4.3	.9
Of 6 months duration or more	1.7	2.8	1.7	1.3	1.2	.4
Updating of certificate or license	5.9	2.7	5.7	7.6	8.6	4.6
License in trade or profession	4.0	4.7	3.7	4.4	3.5	2.1
College or university degree	**17.6**	**24.7**	**22.3**	**12.0**	**4.2**	**3.0**
Undergraduate degree	11.5	19.8	12.4	8.2	2.5	2.4
2-year degree	5.2	8.7	5.1	4.5	1.6	0
4-year degree	6.4	11.2	7.4	3.9	.9	2.4
Postgraduate degree	6.2	5.0	9.9	3.8	1.7	.7
None of the above	**63.1**	**52.5**	**60.0**	**67.9**	**77.7**	**86.9**
Not reported	1.0	1.1	1.0	1.2	.7	1.3

[1] Less than 0.05 percent.

NOTE: Details do not add to totals because of duplicate counts, i.e., a participant in adult education may take a course to meet more than one credit objective.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Participation in Adult Education* and unpublished tabulations.

Chart 6.6
Credit Objectives in Adult Education Courses by Age Group of Participants

Most courses in adult education were taken for noncredit, regardless of the participant's age. Courses for certification or licensing were more often taken by adults 35 to 64 years old and those that apply to higher education degrees, by adults 17 to 34 years old.

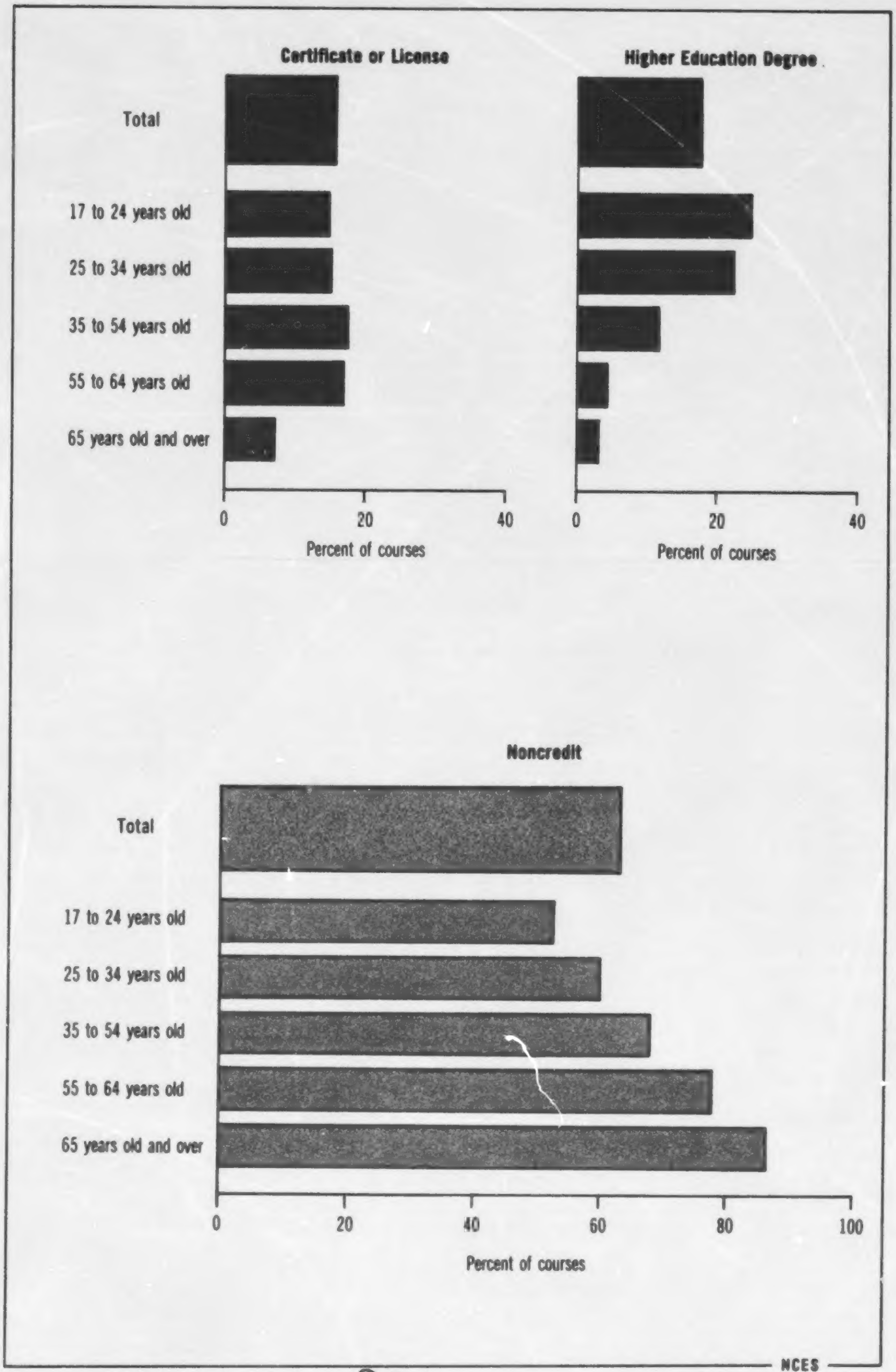

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Table 6.7
Main reason for taking adult education course, by course administrator: Year ending May 1978

Course administrator	Total	Advance in current job	Get new job	Other job related	American citizenship	General education	Personal, social, or other non-job related	Not reported
	Percentage distribution of courses							
Total	100.0	38.9	10.5	3.3	0.2	12.5	33.9	0.7
Elementary, junior, or high school	100.0	12.5	8.2	1.3	1.0	21.5	55.2	.4
2-year college or vocational-technical institute	100.0	26.4	17.8	2.9	.1	21.4	30.7	.5
4-year college or university	100.0	50.5	14.1	3.1	0	16.2	15.5	.6
Vocational, trade, or business school	100.0	42.7	20.0	3.9	0	11.0	22.3	.2
Tutor or private instructor	100.0	16.7	4.9	2.2	.1	5.5	70.0	.5
Business or industry	100.0	74.4	5.8	4.9	0	3.0	11.7	.2
Labor organization or professional association	100.0	84.8	3.2	4.6	0	1.6	5.5	.2
Government agency	100.0	46.5	4.7	5.5	.2	5.9	36.2	.7
Private community organization	100.0	12.3	1.9	1.7	0	7.5	76.2	.4
Other	100.0	29.2	8.6	4.3	.1	8.5	47.8	1.5
Did not know or not reported	100.0	34.8	7.0	2.2	.3	10.9	37.3	7.8

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Participation in Adult Education* and unpublished tabulations.

Chart 6.7
Reason For Taking Adult Education Course by Course Administrator

The majority of adult education courses were taken for job-related reasons. Compared to other course providers, elementary/secondary schools and institutions of higher education were the most likely to provide courses for general education, and private community organizations for social, personal, and non-job related reasons.

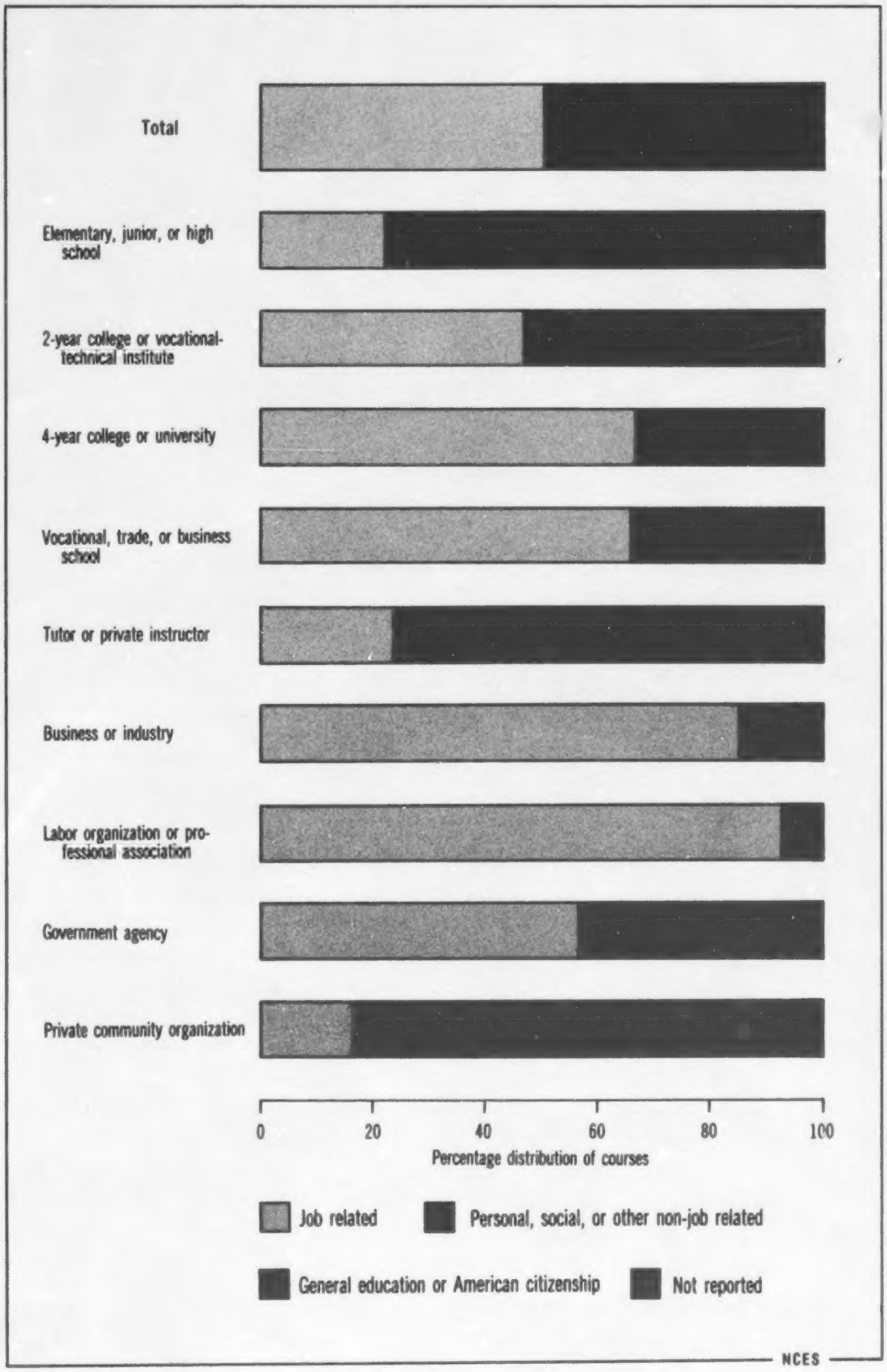


Table 6.8
Selected means by which course was conducted, by age group: Year ending May 1978

Means	Total	17–24 years	25–34 years	35–54 years	55–64 years	65 years and over
			Number of courses in thousands			
Total	28,894	5,607	11,067	9,433	2,031	757
Correspondence	834	180	301	302	45	6
Group instruction	25,355	4,774	9,789	8,321	1,783	688
Individual instruction	1,304	331	486	382	80	26
Television or radio	120	13	45	44	15	4
Self teaching materials	483	141	198	115	26	2
Other	169	49	49	48	12	11
Not reported	628	118	200	221	70	20
			Percentage distribution of courses			
Total	100.0	100.0	100.0	100.0	100.0	100.0
Correspondence	2.9	3.2	2.7	3.2	2.2	.8
Group instruction	87.8	85.2	88.4	88.2	87.8	90.9
Individual instruction	4.5	5.9	4.4	4.0	3.9	3.4
Television or radio	.4	.2	.4	.5	.7	.5
Self teaching materials	1.7	2.5	1.8	1.2	1.3	.3
Other	.6	.9	.4	.5	.6	1.4
Not reported	2.2	2.1	1.8	2.3	3.4	2.6

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Participation in Adult Education* and unpublished tabulations.

Chart 6.8
Means By Which Course Conducted by Age Group

Adult education courses were taken most frequently by all age groups through group instruction. Those taken through other means such as correspondence, individual instruction, or the media, each accounted for less than 5 percent of all courses.

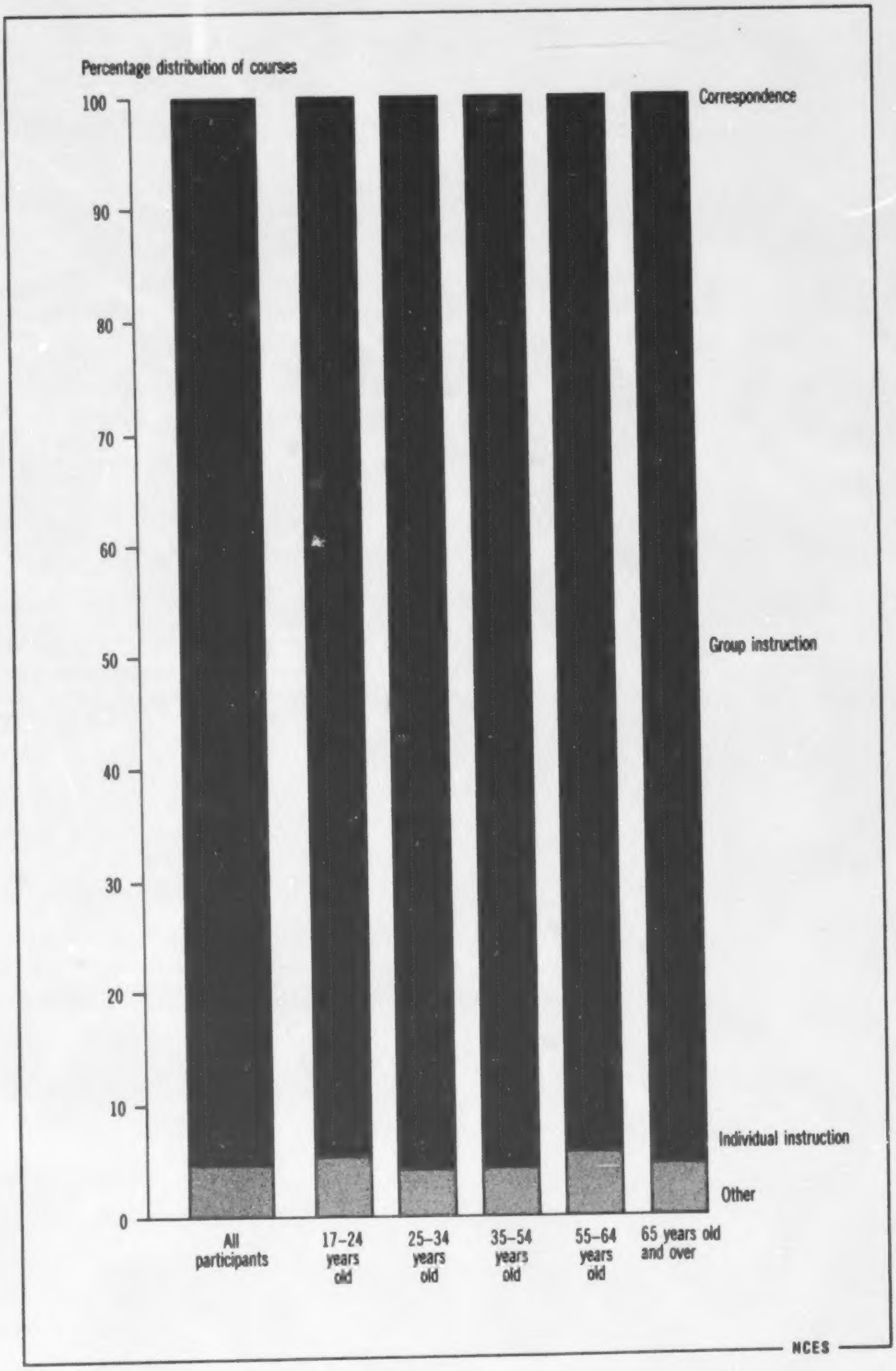


Table 6.9
Subjects taken through adult education: Year ending May 1978

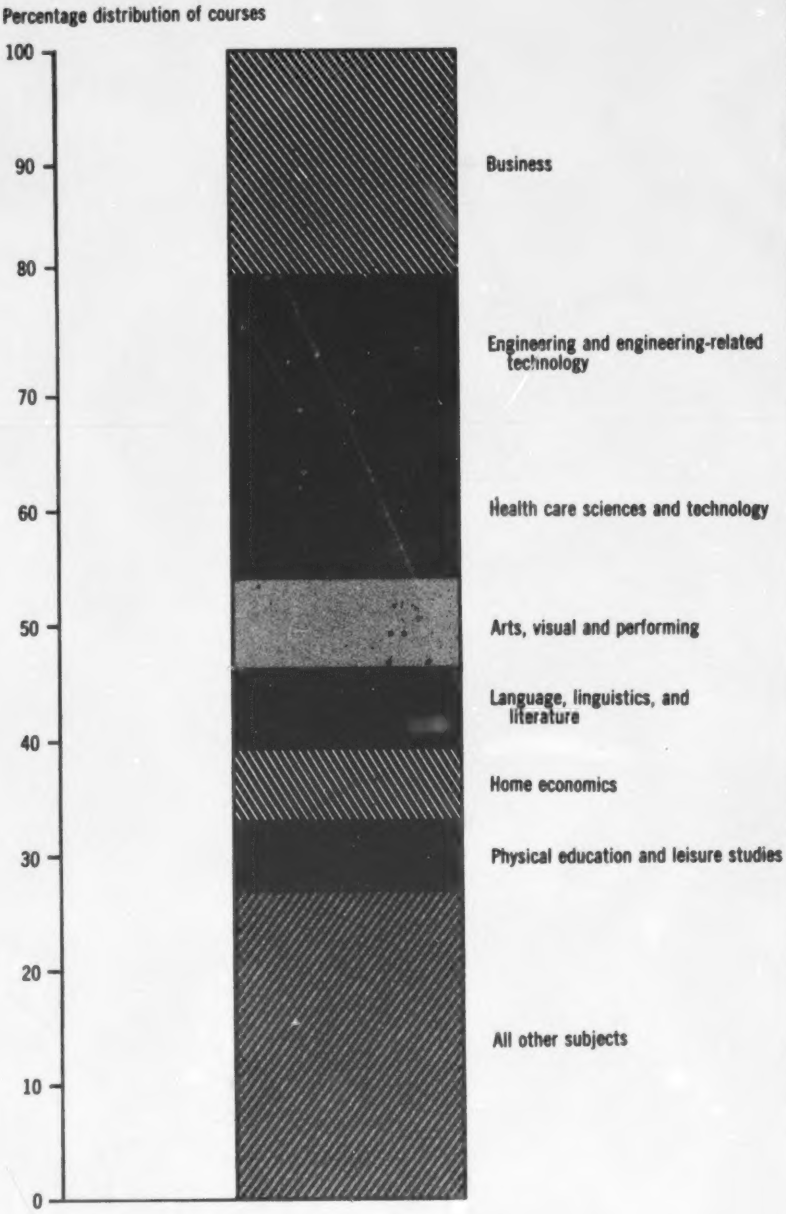
Subject	Number of courses in thousands	Percentage distribution of courses
Total	28,894	100.0
Agriculture and renewable natural resources	285	1.0
Arts, visual and performing	2,316	8.0
Business	5,608	19.4
Education	1,270	4.4
Engineering and engineering-related technology	4,242	14.7
Health care sciences and technology	3,398	11.8
Home economics	1,830	6.3
Personal services occupations	177	.6
Language, linguistics, and literature	2,000	6.9
Law	623	2.2
Libraries and museums	91	.3
Life sciences and physical sciences	522	1.8
Mathematical sciences	679	2.3
Military sciences	38	.1
Philosophy and religion	867	3.0
Physical education and leisure studies	1,772	6.1
Psychology	951	3.3
Public administration and social services	549	1.9
Social sciences and social studies	1,070	3.7
Interdisciplinary studies	453	1.6
Not reported	154	.5

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Participation in Adult Education* and unpublished tabulations.

Chart 6.9
Subjects Taken Through Adult Education

Business, engineering, and health care sciences were the subjects most frequently taken through adult education.



NCES

Table 6.10
Source of payment for adult education course: Year ending May 1978

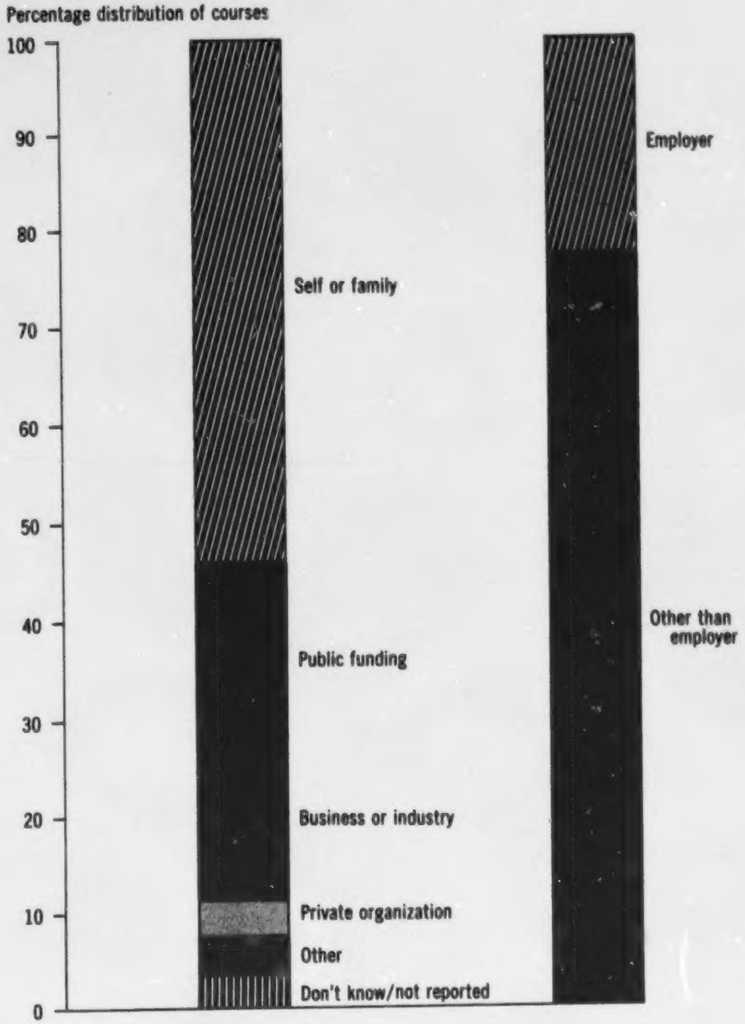
Payment source	Percentage distribution of courses
Total	100.0
Self or family	53.9
Public funding	18.2
Business or industry	16.5
Private organization	3.9
Other	3.9
Did not know	1.0
Not reported	2.6
Total	100.0
Employer paid for course	22.8
Other sources	77.2
Average amount paid per course by self or family	$70

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Participation in Adult Education* and unpublished tabulations.

Chart 6.10
Source of Payment for Adult Education Course

Participants or their families paid for the majority of adult education courses, averaging about $70 per course. Employers financed slightly over one-fifth of all adult education courses.



NCES

Table 6.11
Status of course and reason for dropping course: Year ending May 1978

Status and reason	Number of courses in thousands	Percentage distribution of courses
Total	28,894	100.0
In progress	5,186	18.0
Completed	21,315	73.8
Dropped	1,878	6.5
Not reported	515	1.8
Courses dropped by reason	1,878	100.0
Changed residence or job	210	11.2
Course disappointing	201	10.7
Course too demanding	91	4.8
Objective was accomplished	114	6.1
Financial problems	62	3.3
Illness of self or care of family members	321	17.1
Location inconvenient	42	2.2
Time inconvenient	191	10.2
Language problems	2	.1
Too much to do	228	12.1
Other	370	19.7
Not reported	45	2.4

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Participation in Adult Education* and unpublished tabulations.

Chart 6.11
Status of Course and Reason for Dropping

Less than 7 percent of adult education courses was dropped. Illness or care of family member was the most frequent reason specifically cited for dropping a course.

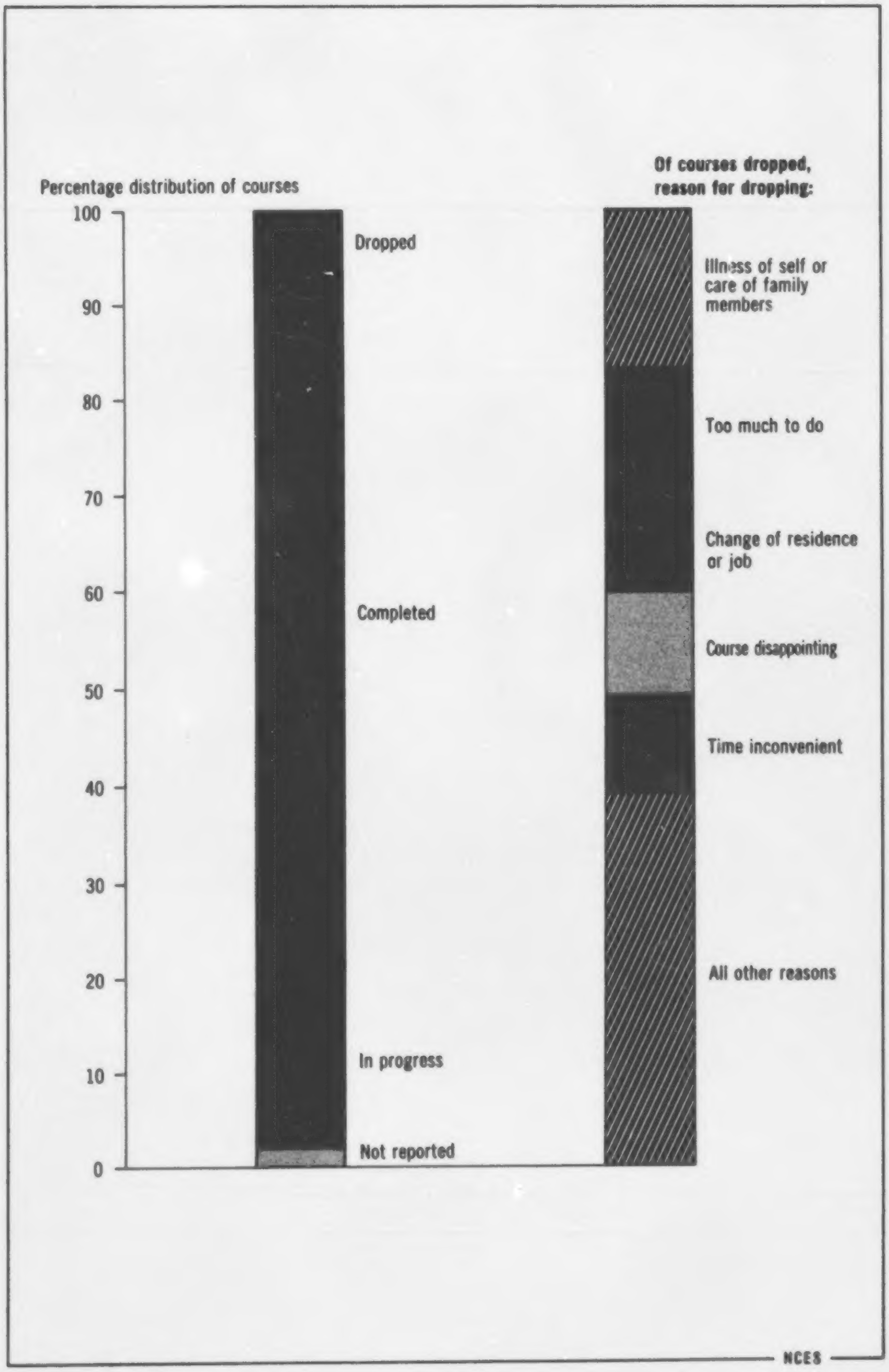


Table 6.12
Enrollment in noncollegiate postsecondary schools, with occupational programs, by type of school and program area, and by control: Aggregate United States, 1974 to 1978

Type of school	1974			1976			1978		
	Total	Public	Private	Total	Public	Private	Total	Public	Private
				(In thousands)					
All schools	1,341.1	453.7	887.4	1,399.1	468.4	930.7	1,495.2	451.8	1,043.4
Vocational/technical	472.2	359.6	112.6	495.0	367.3	127.7	478.4	405.2	73.2
Technical institute	84.8	35.5	49.3	92.1	41.5	50.6	34.5	11.0	23.5
Business/office	320.3	.6	319.7	339.2	.8	338.4	440.5	1.3	439.2
Cosmetology/barber	113.8	.2	113.6	133.0	.9	132.1	132.4	0	132.4
Flight	75.7	.8	75.0	72.9	5.5	67.4	63.3	.4	62.9
Trade	150.8	24.4	126.3	158.0	34.5	123.5	159.1	4.0	155.1
Arts/design	(1)	(1)	(1)	(1)	(1)	(1)	36.8	0	36.8
Hospital	71.4	8.7	62.7	71.1	9.8	61.3	48.2	5.4	42.8
Allied health	(1)	(1)	(1)	(1)	(1)	(1)	55.6	9.1	46.5
Other	52.1	23.9	28.2	37.8	8.1	29.7	46.1	15.4	31.0
Program area									
All programs	1,341.1	453.7	887.4	1,399.1	468.4	930.7	1,495.2	451.8	1,043.4
Agri-business	8.4	6.3	2.1	11.8	9.3	2.5	8.1	5.3	2.8
Marketing/distribution	173.9	33.4	140.5	120.0	15.2	104.8	231.7	17.6	214.1
Health	168.1	58.9	109.2	202.2	73.5	128.7	186.8	74.1	112.7
Home-economics	2.0	1.8	.2	12.1	10.0	2.1	9.8	8.5	1.3
Business/office	293.1	91.1	202.0	377.9	96.3	281.6	341.3	102.7	238.6
Technical	107.2	27.0	80.2	157.8	27.8	130.0	142.9	28.7	114.2
Trades/industry	588.4	235.2	353.2	517.3	236.3	281.0	574.6	214.9	359.7

[1] A redefinition of vocational/technical and technical institutes occurred between 1976 and 1978. Those schools offering arts/design and allied health programs were deleted from vocational/technical and technical institutes and categorized in their respective school types.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Enrollments and Programs in Noncollegiate Postsecondary schools 1978*, 1979.

Chart 6.12
Enrollment in Noncollegiate Postsecondary Schools with Occupational Programs

Data from biennial surveys show that total enrollment in noncollegiate postsecondary schools with occupational programs increased in 1976 and again in 1978. Largest enrollments were in vocational/technical schools and trade/industry programs.

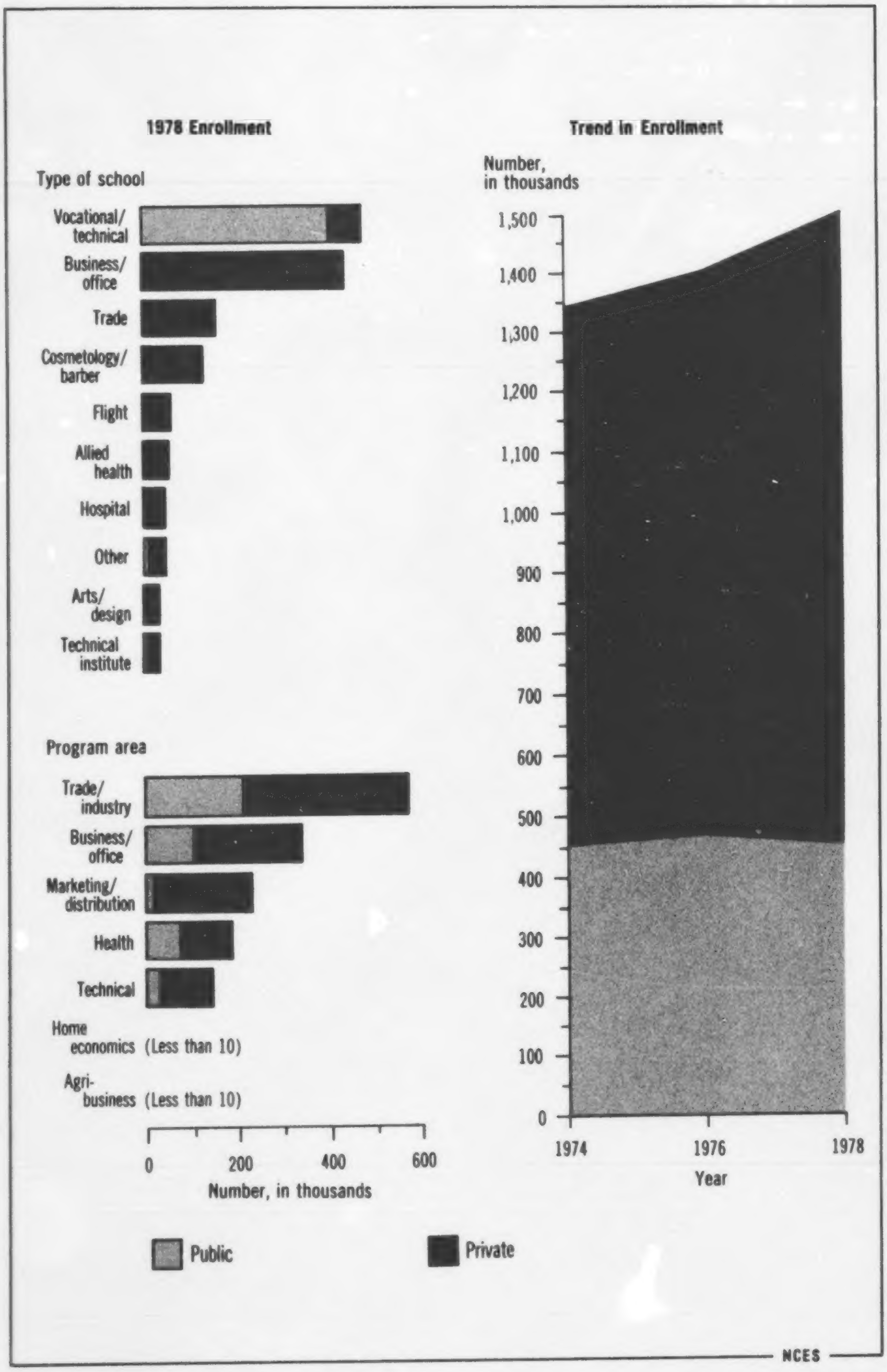


Table 6.13
Racial/ethnic group distribution of students in noncollegiate postsecondary schools with occupational programs, by program area: Aggregate United States, 1979

Program area	Total	White[1]	Black[1]	Hispanic	Other[2]	Not reported
	Racial/ethnic group					
	Percentage distribution					
All programs[3]	100.0	67.0	17.7	6.1	3.0	6.2
Agri-business	100.0	91.6	3.0	1.6	.6	3.2
Marketing/distribution	100.0	76.7	10.2	1.5	4.4	7.3
Health occupations	100.0	81.6	10.2	3.8	1.3	3.1
Home economics	100.0	43.6	37.4	8.8	7.0	3.1
Business/office	100.0	55.2	29.7	6.3	2.7	6.0
Technical occupations	100.0	78.1	8.4	3.3	4.2	6.0
Trade/industry	100.0	66.2	14.8	7.9	3.4	7.7

[1] Non-Hispanic.

[2] Includes American Indian/Alaskan Native and Asian/Pacific Islander.

[3] Only programs whose length was greater than 3 months were included in this survey. Excluded programs include flight, modeling, real estate, floristry, dog grooming, and bartending. Correspondence schools and Opportunities Industrialization Center Schools were excluded from the survey.

SOURCE: Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 6.13
Racial/Ethnic Group Distribution of Students in Occupational Programs

In noncollegiate postsecondary schools, blacks and Hispanics were enrolled in occupational programs in larger proportions than they were represented in the general population. Whites were over-represented only in the agri-business program area.

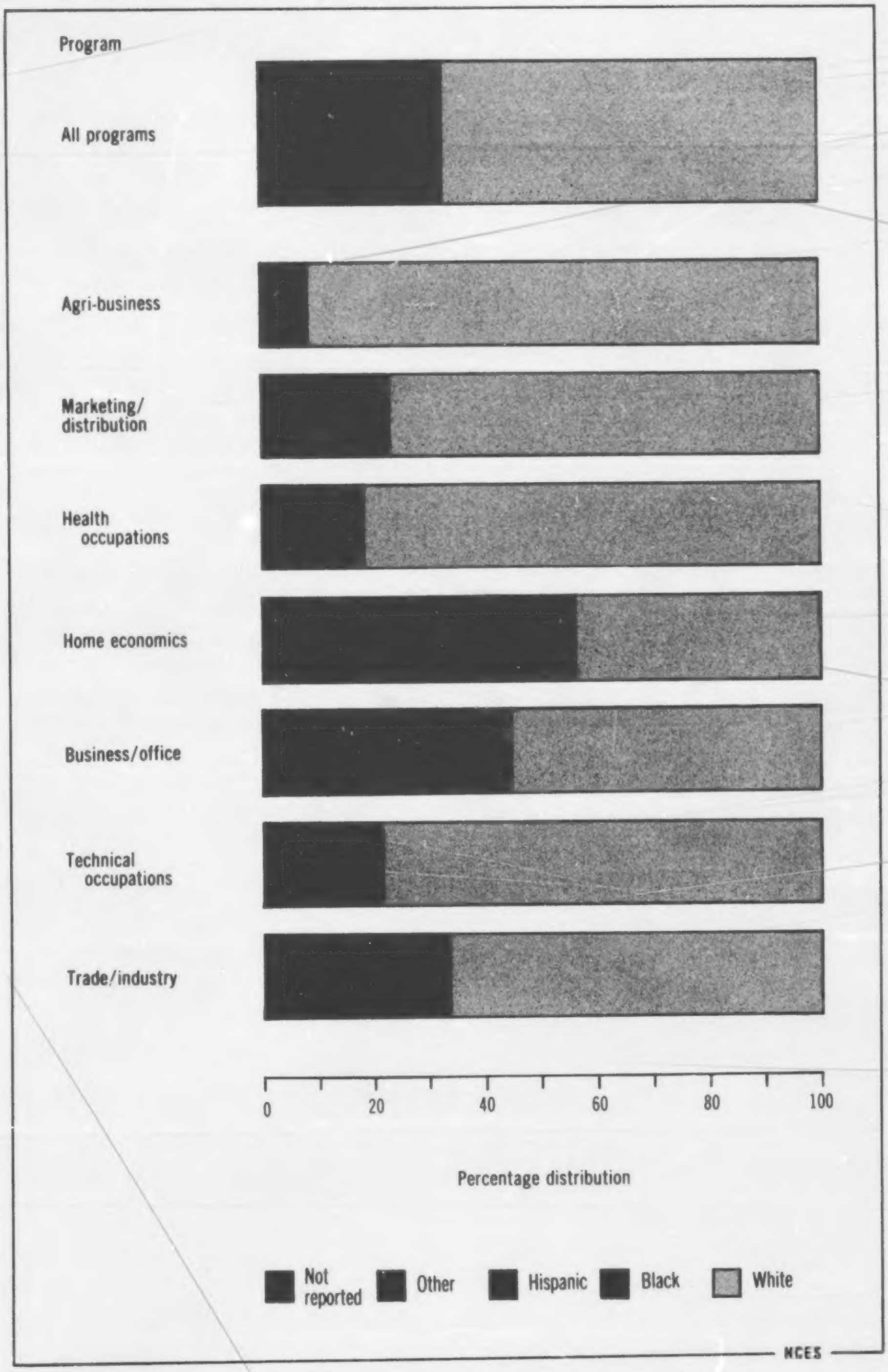


Table 6.14
Educational level and employment status of parents and students in noncollegiate postsecondary schools with occupational programs[1]: Aggregate United States, 1979

Item	Student	Mother	Father
	Percentage distribution		
Educational level:			
Total	100.0	100.0	100.0
Less than high school	**8.2**	**32.6**	**35.6**
Completed high school	**64.0**	**38.4**	**28.8**
Some college or other training	**22.0**	14.1	**13.8**
Completed 2 years of college (Associate degree)	**2.7**	**3.0**	**2.4**
Completed 4 years of college or more	**3.0**	**5.5**	**10.3**
Not reported	.2	6.3	9.0
Employment status:			
Total	100.0	100.0	100.0
Professional, technical, and managerial	7.4	7.4	18.2
Health	NA	8.4	1.5
Clerical and sales	14.9	22.2	8.1
Service	9.2	14.0	9.7
Agriculture	1.2	.5	5.9
Processing	1.8	5.5	6.2
Machine trades	5.0	.6	9.1
Bench work	1.0	2.0	1.5
Structural work	3.9	.4	14.4
Miscellaneous	3.4	1.4	10.2
Never worked	NA	27.3	.5
Not currently working	52.1[2]	NA	NA
Not reported	.1	10.2	14.7

NA: Not available.

[1] Only programs whose length was greater than 3 months were included in this survey. Correspondence schools and Opportunities Industrialization Center Schools were excluded from the survey.

[2] Of the 52.1 percent of students who were not currently working, 24.0 percent reported that they were looking for a job.

SOURCE: Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 6.14
Educational Level of Parents and Students in Occupational Programs

Students enrolled in noncollegiate postsecondary schools with occupational programs had higher educational attainment than their parents. Of those students currently working, over half held jobs in clerical and sales or service occupations.

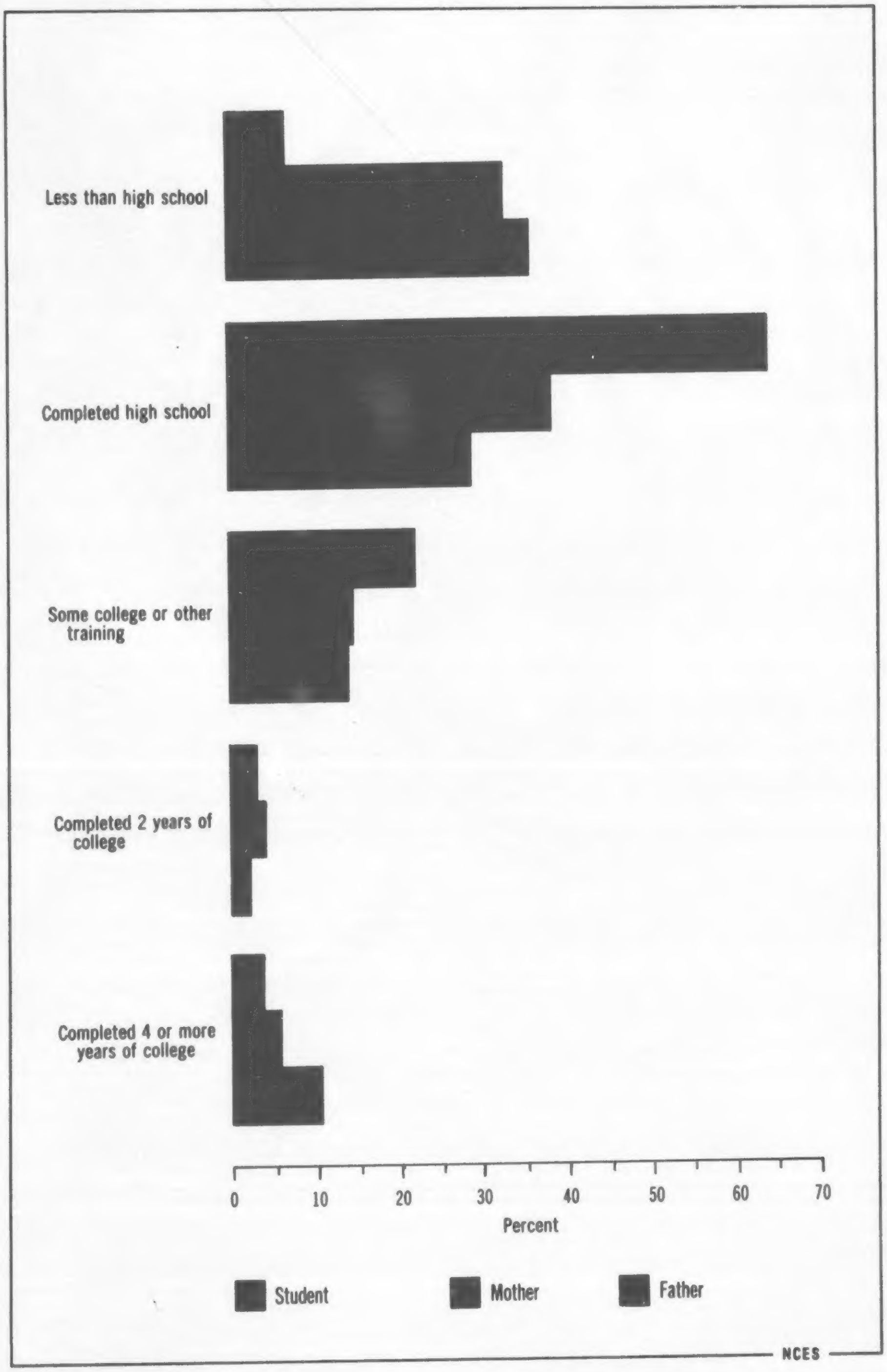


Table 6.15
Number of noncollegiate postsecondary schools with occupational programs by control of school: Aggregate United States, 1974, 1976, and 1978

Control of school	Number of schools			Percent change		
	1974	1976	1978	1974–1976	1976–1978	1974–1978
Total	8,716	8,499	7,625	−2.5	−10.3	−12.5
Public	892	990	812	11.0	−18.0	−9.0
Private	7,824	7,509	6,893	−4.0	−9.3	−12.9
Proprietary	6,512	6,435	5,814	−1.2	−9.7	−10.7
Nonprofit	1,312	1,074	999	−18.1	−7.0	−23.9

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Enrollments and Programs in Noncollegiate Postsecondary Schools 1978*, 1979.

Chart 6.15
Number of Noncollegiate Postsecondary Schools with Occupational Programs

Between 1974 and 1978, the number of noncollegiate postsecondary schools with occupational programs decreased, although most of the decrease was in the number of proprietary schools.

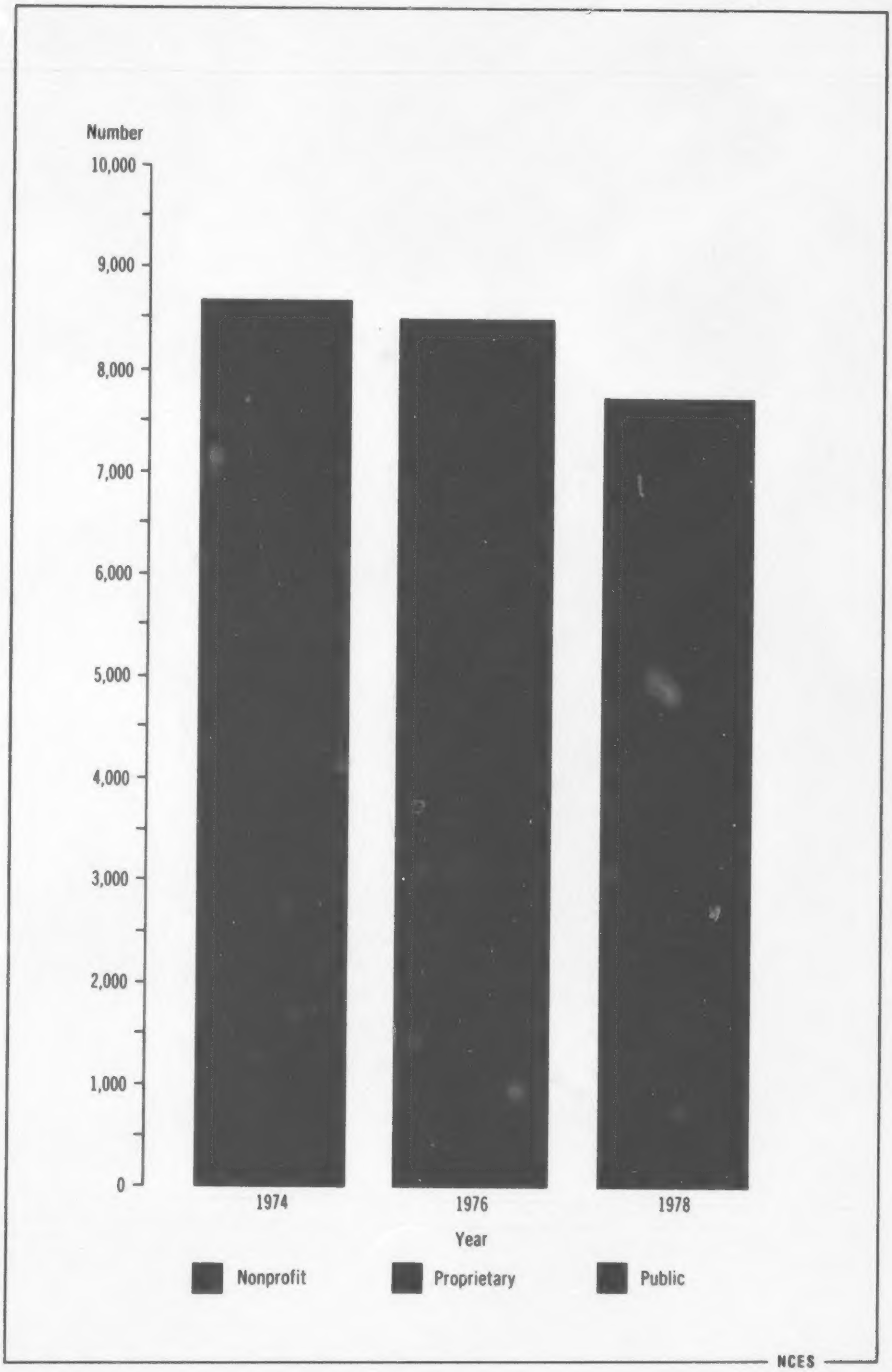


Table 6.16

Distribution of noncollegiate postsecondary schools with occupational programs, by enrollment size and organization type: 1978

Size of school	Distribution of schools, by enrollment size		
	All schools	Public	Private
Total	100.0	100.0	100.0
Less than 100 students	57.9	37.9	60.2
100 to 499 students	31.6	29.9	31.8
500 students and over	8.3	31.7	5.5
Not reported	2.3	.4	2.5

Type of organization	Distribution of schools and students, by organization type	
	Schools	Students
Total	100.0	100.0
Independent[1]	76.3	56.7
Chain[2]	16.0	17.7
Branch of another business[3]	6.7	25.3
Unidentified	1.0	.3

[1] Schools not affiliated with other schools or businesses.

[2] Schools affiliated with other schools.

[3] Schools operated as branches of another organization whose primary business was not related to education or training.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Enrollments and Programs in Noncollegiate Postsecondary Schools 1978*, 1979.

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Chart 6.16
Distribution of Noncollegiate Postsecondary Schools and Students by Enrollment Size and Type of Organization

Most private schools enrolled fewer than 100 students since they were more likely to offer single programs than were public schools. Seventy-six percent of the schools were independently controlled and these enrolled more than one-half of the students.

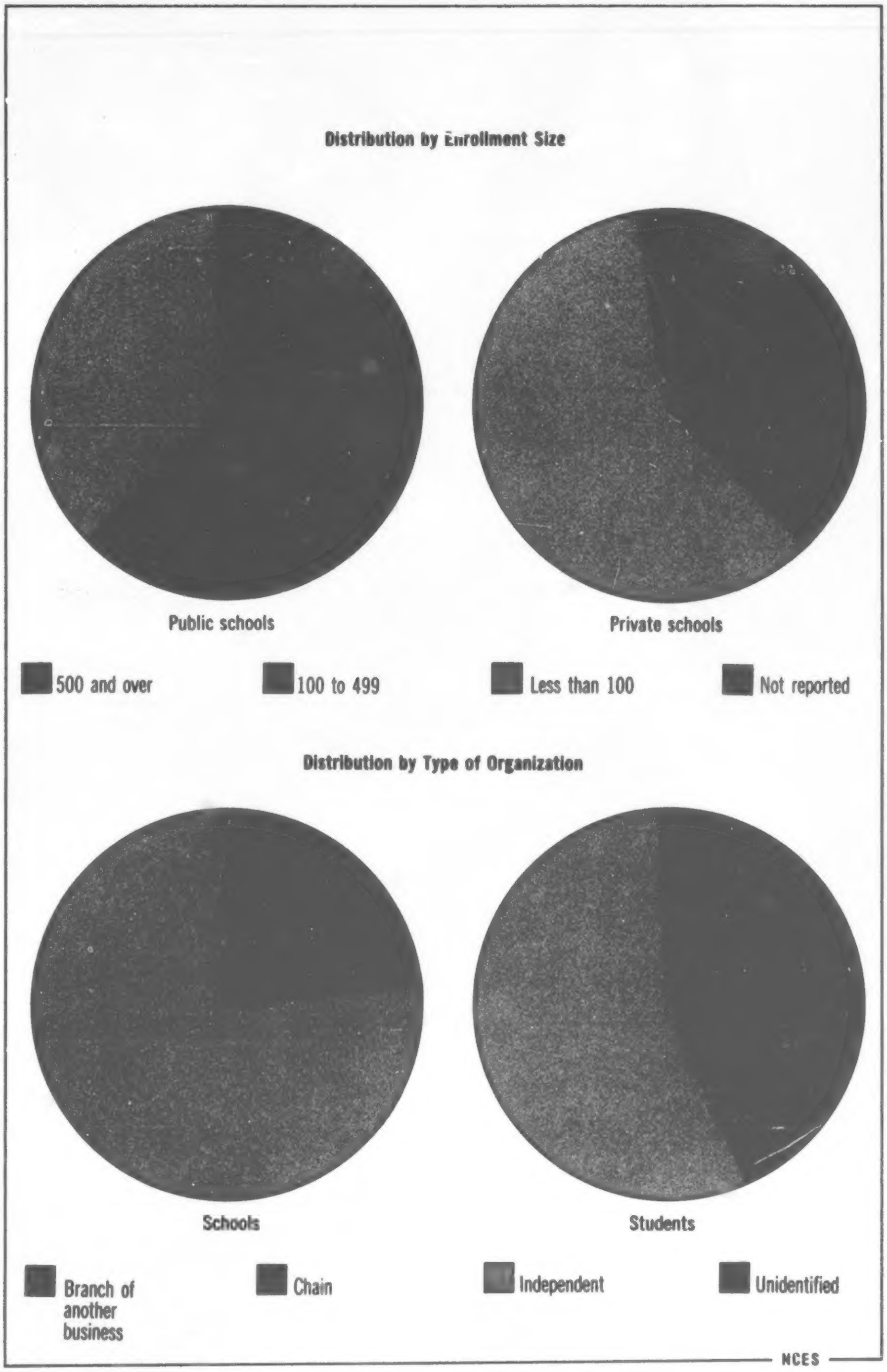


Table 6.17
Noncollegiate postsecondary schools with occupational programs by control and type: Aggregate United States, 1978

Type of school	Public	Private	
		Proprietary	Nonprofit
Number of schools	812	5,814	999
	Percentage distribution		
Total	100.0	100.0	100.0
Vocational/technical	62.1	1.3	2.6
Technical institute	.9	1.4	1.0
Business/office	.5	20.7	4.4
Cosmetology/barber	.0	37.2	.1
Flight	.6	18.1	.4
Trade	1.7	10.6	8.6
Arts/design	.0	3.9	2.6
Hospital	18.1	.3	75.3
Allied health	14.0	3.4	4.6
Other	2.1	3.2	.5

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Enrollments and Programs in Noncollegiate Postsecondary Schools 1978*, 1979.

Chart 6.17
Distribution of Noncollegiate Postsecondary Schools by Type

The majority of public schools are vocational/technical which offered multiple programs. Proprietary schools tended to offer such single programs as cosmetology or flight, while nonprofit schools offered primarily hospital programs.

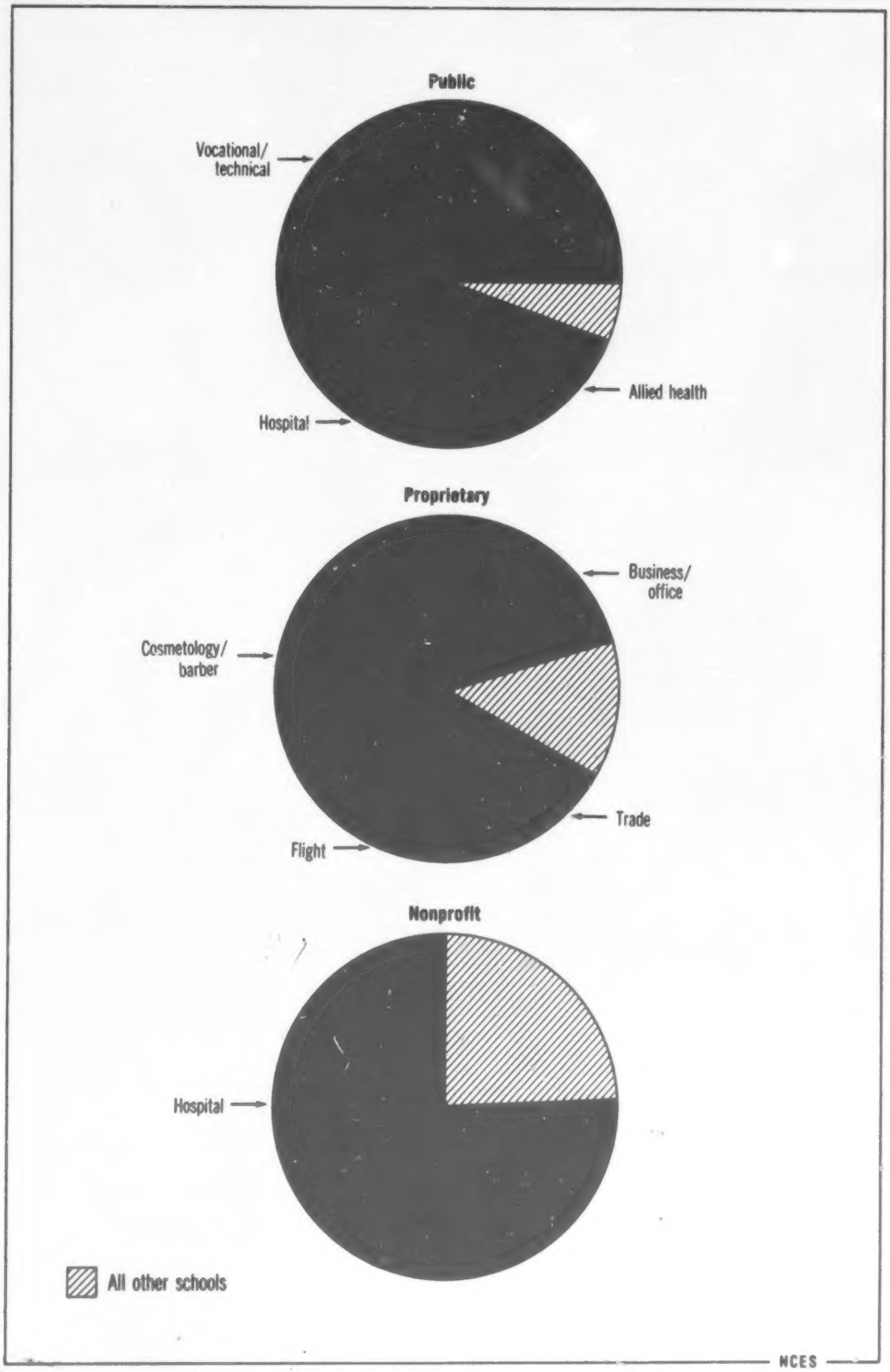


Table 6.18

Number of programs offered by noncollegiate postsecondary schools with occupational programs, by control of school and major program area: Aggregate United States, 1978

Program area and distribution by control	Control and distribution by program area					
	Total		Public		Private	
	Number	Percentage distribution	Number	Percentage distribution	Number	Percentage distribution
All programs	21,435	100.0	6,835	100.0	14,600	100.0
Percentage distribution	**100.0**		**31.9**		**68.1**	
Agri-business	179	.8	158	2.3	21	.1
Percentage distribution	**100.0**		**88.3**		**11.7**	
Marketing/distribution	1,172	5.5	308	4.5	864	5.9
Percentage distribution	**100.0**		**26.3**		**73.7**	
Health	2,615	12.2	1,048	15.3	1,567	10.7
Percentage distribution	**100.0**		**40.1**		**59.9**	
Home economics	150	.7	126	1.8	24	.2
Percentage distribution	**100.0**		**84.0**		**16.1**	
Business/office	5,591	26.1	1,095	16.0	4,496	30.8
Percentage distribution	**100.0**		**19.6**		**80.4**	
Technical	3,075	14.3	402	5.9	2,673	18.3
Percentage distribution	**100.0**		**13.1**		**86.9**	
Trades/industry	8,653	40.4	3,698	54.1	4,955	33.9
Percentage distribution	**100.0**		**42.7**		**57.3**	

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Enrollments and Programs in Noncollegiate Postsecondary Schools 1978*, 1979.

Chart 6.18
Distribution of Occupational Programs by Control of School

Private schools offered more than two-thirds of all occupational programs. The public sector offered the majority of agri-business and home economics programs.

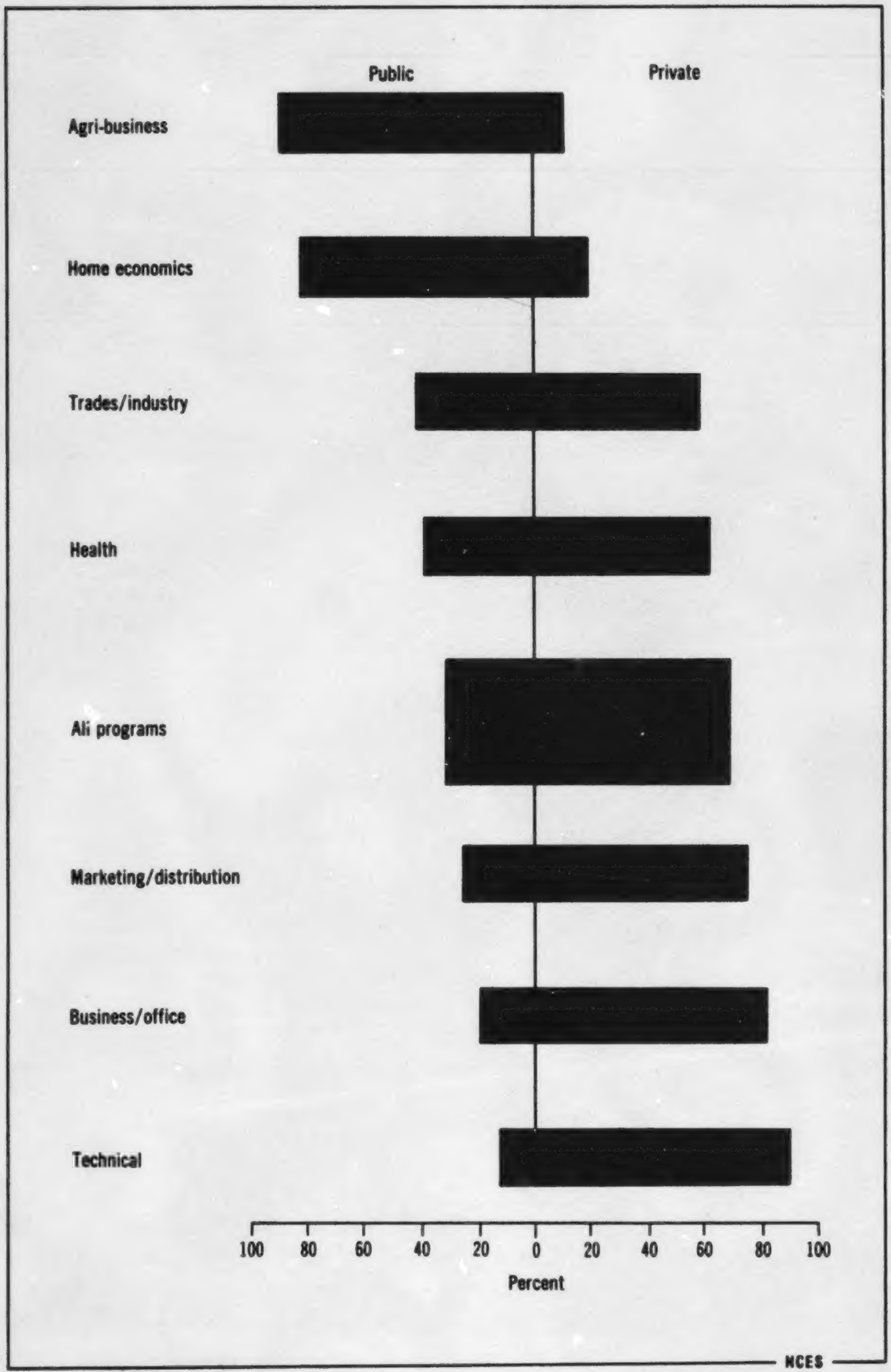


Table 6.19

Mean charges and mean length of programs in noncollegiate postsecondary schools with occupational programs, by control of school and major program area: Aggregate United States, 1978

Program area	Mean charges		Mean length (hours)	
	Public	Private	Public	Private
All programs	$345	$1,616	1,182	922
Agri-business	326	2,514	1,115	888
Marketing/distribution	310	926	999	327
Health	454	1,664	1,214	1,977
Home economics	344	1,149	803	481
Business/office	270	1,821	903	956
Technical	586	2,317	1,844	249[1]
Trades/industry	315	1,155	1,214	1,026

[1] The 2,255 commercial pilot programs offered by private schools (and none in public schools) are included at an average of 82 hours. If these programs are deleted, the revised weighted number of hours for private technical programs is 1,133.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Enrollments and Programs in Noncollegiate Postsecondary Schools 1978*, 1979.

Chart 6.19
Length of Programs and Charges for Occupational Programs

In 5 of the 7 major program areas, the program in public schools took longer to complete than in private schools. Even though private programs cost more, they enrolled more students in 5 of 7 major areas.

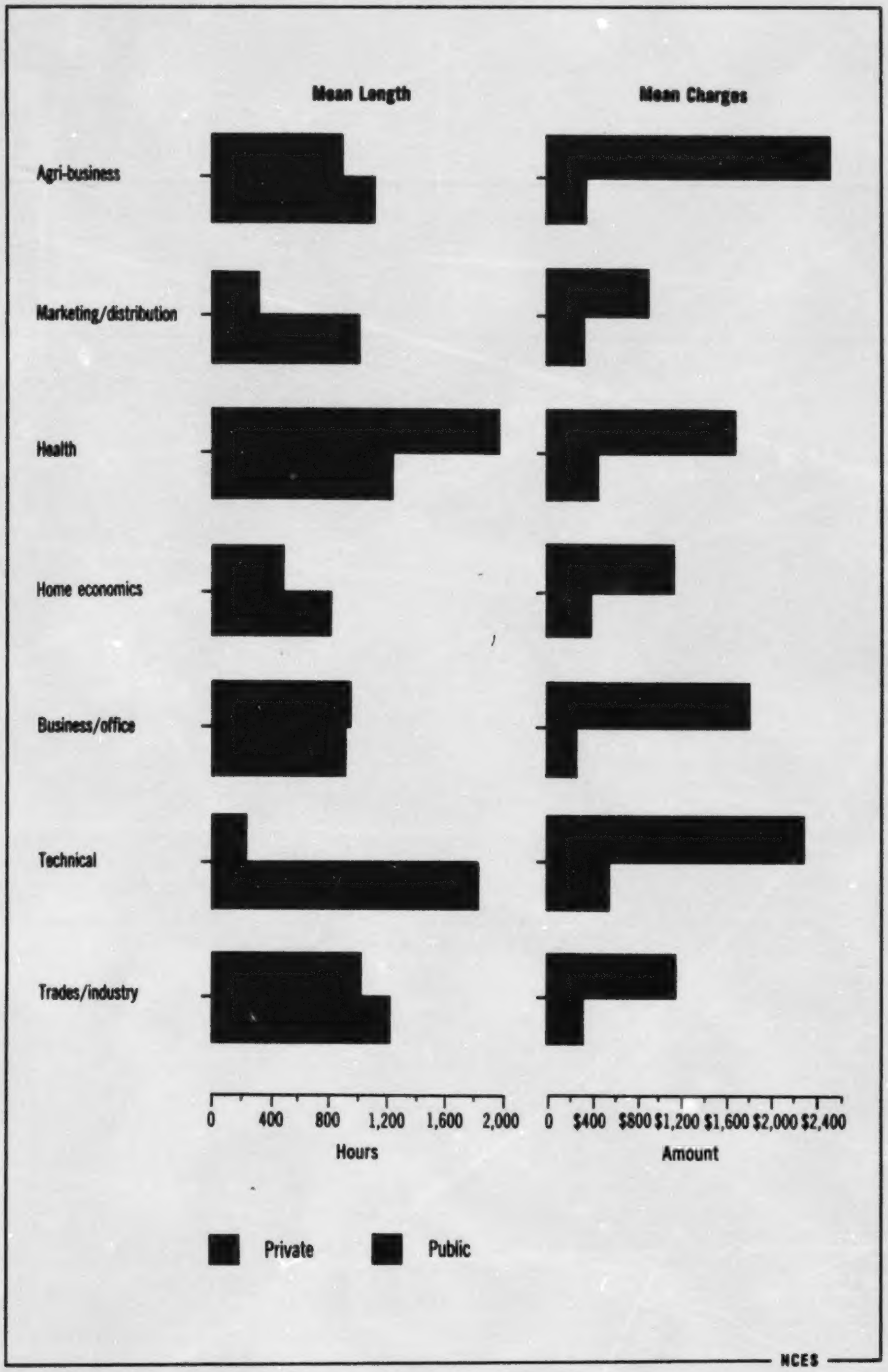


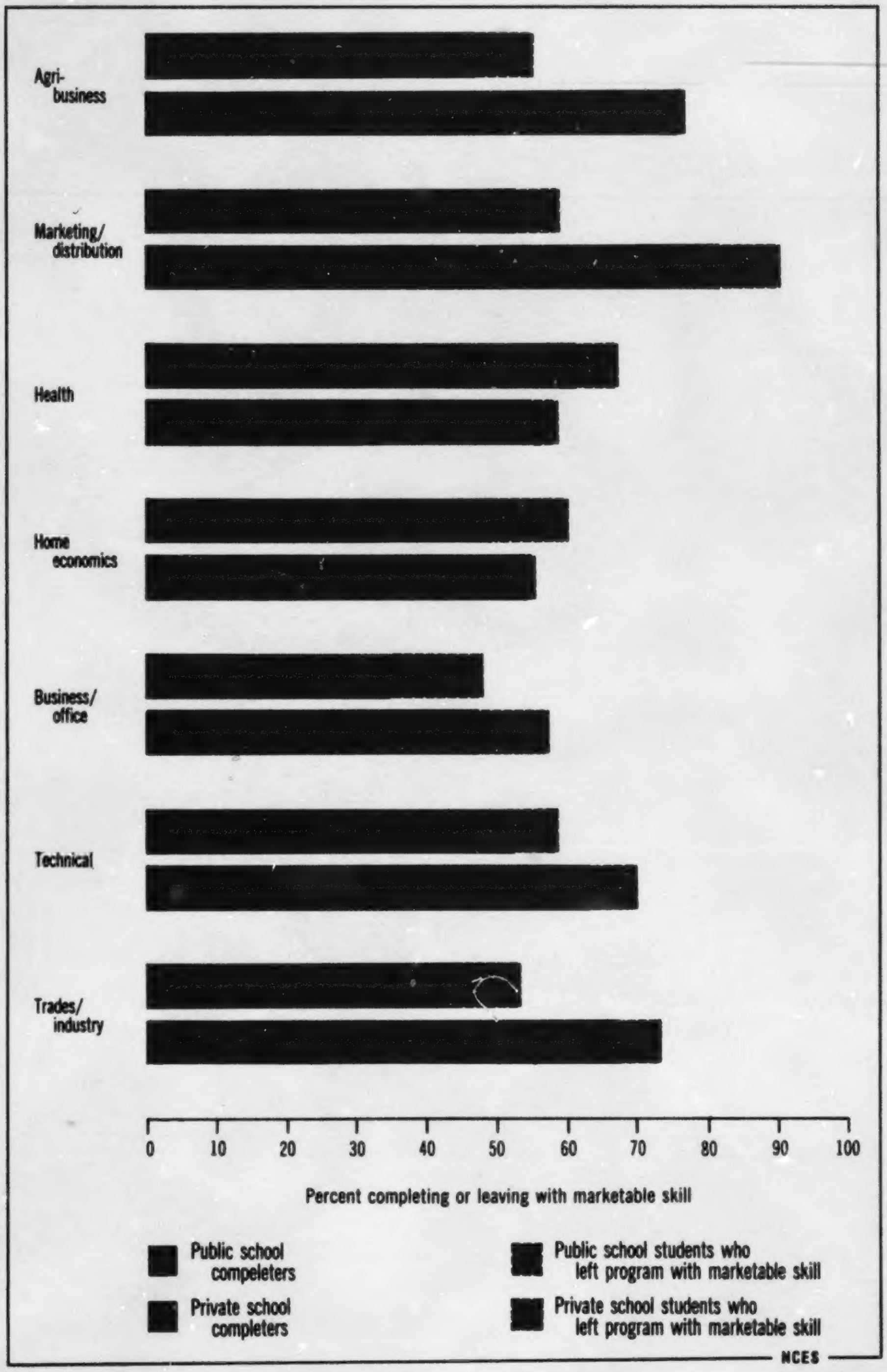
Table 6.20
Occupational program outcomes in noncollegiate postsecondary schools, by control of institution and type of program: Aggregate United States, 1978

Item	Total	Completed	Left with marketable skill	Continued or dropped out
		Percentage distribution		
Public:				
All programs	100.0	45.6	9.1	45.3
Agri-business	100.0	46.7	8.6	44.7
Marketing/distribution	100.0	52.6	6.2	41.2
Health	100.0	61.4	5.6	33.0
Home economics	100.0	49.2	10.5	40.3
Business/office	100.0	34.3	13.6	52.1
Technical	100.0	52.1	6.1	41.8
Trades/industry	100.0	44.0	8.8	47.2
Private:				
All programs	100.0	63.0	6.9	30.1
Agri-business	100.0	75.6	.9	23.5
Marketing/distribution	100.0	81.3	9.0	9.7
Health	100.0	54.9	3.8	41.3
Home economics	100.0	54.0	1.1	44.9
Business/office	100.0	47.4	9.7	42.9
Technical	100.0	63.0	6.5	30.5
Trades/industry	100.0	67.3	5.7	27.0

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Enrollments and Programs in Noncollegiate Postsecondary Schools 1978*, 1979.

Chart 6.20
Occupational Program Completions

Completion rates were higher in private than in public noncollegiate postsecondary schools with occupational programs. The public program with the highest completion rate was health.



Chapter 7

Resource Disparity in Elementary/Secondary Education

Elementary/secondary education is the responsibility of State and local governments. More than 91 percent of total revenue is provided by these sources (entry 7.1). In one-half of the States, the largest proportion of total revenue came from State governments, while in the remaining half, the largest share was provided by local sources. State and local control of elementary/secondary school finances enables school districts to meet the unique needs of their students with available financial resources. Different needs and capacities of localities contributed to disparities in the amount of financial and staffing resources provided for elementary/secondary education among school districts. These differences have long concerned citizens, school officials, and legislators. Recent court challenges to the constitutionality of school finance plans have focused increased attention on inequities in the distribution of educational resources.

The purpose of this chapter is to examine the disparities that underlie questions of equity. While the complex nature of this subject requires the use of sophisticated analytical techniques, it is hoped that this discussion will provide a clearer understanding of the nature of resource disparity in elementary/secondary education.

Expenditure variations may be attributable to a number of factors. Differences among States and localities in wage rates, in the cost of educational resources, and in teacher supply and demand conditions contribute to expenditure disparity. Demographic variables such as population density affect the organization and size of school districts. Also the proportion of students enrolled in secondary education programs compared to those enrolled in lower cost elementary education programs may contribute to higher costs for some districts. The number and concentration of students with such special needs as physical, cultural, or economic handicaps also affect school costs. Many of the same factors that affect expenditure disparity produce variation in teacher-pupil ratios. Population density and the number of students with special needs are both factors that influence the teacher-pupil ratio in a school district.

Two types of data were used to measure disparity in this analysis. Expenditure differences were measured by examining core current expenditure per pupil—those from which food service and transportation costs were excluded. Expenditure data pertain to outlays made by local education agencies and exclude expenditures by State agencies at the local level. Staffing differences were measured using the ratio of classroom teachers per 1,000 pupils. These data pertain to unified school districts—those districts which offer all 12 grades. Montana was excluded for this reason. Property values and computational tax rates were also examined to show the variation that exists in the financial capacity and fiscal effort of school districts both within States and nationwide.

The degree of expenditure disparity at the National level can be gauged by examining the distribution of enrollment by levels of expenditure per pupil (entry 7.2). For purposes of this analysis, all students within a single district are assumed to receive equal shares of resources. The National average core current expenditure per pupil was $1,287. More than 60 percent of total enrollment was found in school districts that spent more than $1,400 per pupil; 22 percent was in school districts that spent under $1,200 per pupil; and only 17 percent was in school districts that had expenditures per pupil within the same interval that contained the National average ($1,200 to $1,399).

The diversity of school district enrollment and expenditure levels emphasizes the variation in the provision of elementary/secondary education throughout the Nation. Average State expenditures for district level data ranged from $757 per pupil in Alabama to $2,496 per pupil in Alaska (entry 7.3). A comparison of per pupil expenditure of the school district at the 95th percentile of students in each State, to per pupil expenditure of the school district at the 5th percentile of students summarizes the range of expenditure differences for each State. Exclusion of the highest and lowest 5 percent is intended to allow for circumstances that might justify some extreme unevenness in the distribution of resources. In 2 States, Massachusetts and Delaware, expenditures per pupil at the 95th percentile were more than double the amount at the 5th percentile. Except for Hawaii and the District of Columbia (which contain only 1 school district each), the smallest within-State disparity was found in Nevada.

Diversity was also found when examining resource disparity in terms of teachers per 1,000 pupils. Among States, the average ratio ranges between 36 and 56 teachers per 1,000 students (entry 7.4). The chart for entry 7.4 is in the same rank order (mean core current expenditure per pupil) as the chart for entry 7.3. Thus, it can be seen that Alaska, with the highest mean expenditure, is ranked near the middle by mean teacher-pupil ratio. Within-State variation of teacher resources was even greater than expenditure variation in some States. South Dakota, Nebraska, and Arizona had the largest variation in teacher resources as measured by the comparison of 95th and 5th percentiles of teachers per 1,000 pupils.

Expenditure per pupil was highly correlated with personal income per capita (entry 7.5). Core current expenditures in this entry differ from those in the remainder of the chapter because they include expenditures by State and intermediate education agencies as well as direct school system expenditures and pertain to all school districts rather than just unified districts. Those States with higher personal income per capita generally spent more per pupil than States with lower per capita personal income. But even within this general rule, a substantial amount of diversity existed. For example, Illinois, Connecticut, and New Jersey had almost identical per capita personal incomes, yet they exhibited a great deal of variation in their core current expenditure per pupil. Conversely, Alabama, South Carolina, and Idaho had unequal personal income per capita but nearly identical expenditures per pupil.

To measure intrastate disparity, that is, disparity among school districts in a particular State, the Theil coefficient was employed in the following analysis (see Definition appendix for detailed explanation). A Theil coefficient of zero indicates perfect equality or no difference in the resources available per pupil. As variation in expenditures per pupil or teachers per 1,000 pupils increases, the Theil coefficient becomes larger reflecting greater disparity. By comparing individual State Theil coefficients, a pattern of expenditure and staffing disparity begins to emerge.

Changes in the level of expenditure disparity can be gauged by examining Theil coefficients of core current expenditures per pupil in 1969–70 and 1976–77 (entry 7.6). If a State made a significant effort to reduce the level of expenditure differences among school districts, the Theil coefficient should decline. The National average intrastate Theil coefficient provides a benchmark to measure change and is used to differentiate the States in several ways. Twenty-three States had expenditure disparities that were below the National average for both years. The chart for entry 7.6 shows States scattered among 3 diagonal lines. The middle diagonal represents the line on which all States would fall if there were absolutely no change between 1969–70 and 1976–77. The seven States below the lower diagonal on the chart—California, Connecticut, Iowa, Maine, Oklahoma, Rhode Island, and Vermont—were States in which expenditure disparities decreased significantly over the period. The six States above the upper diagonal line—Alaska, Delaware, Massachusetts, Minnesota, New York and Tennessee—were States in which expenditure disparities increased between 1969–70 and 1976–77. The area between the upper and lower diagonals contains those States whose Theil coefficients of expenditure disparity remained relatively unchanged. If the ideal standard of expenditure disparity is a coefficient of zero, then no State with more than one district passes the test. If improvement over past performance is the standard, then seven States were successful in lowering disparities in 1976–77 compared with 1969–70.

Changes in the level of staffing disparity can also be gauged for the same period, 1969–70 to 1976–77, using Theil coefficients. Nineteen States had teacher disparities below the National average Theil coefficient in both years (entry 7.7). Twelve States (those above the upper diagonal in the chart), increased their staffing disparity between 1969–70 and 1976–77. California, Wyoming, and New Jersey significantly reduced their teacher disparity during this period.

The relationship between expenditure disparity and staffing disparity is illustrated by comparing these two measure for one year (entry 7.8). The National average within-State disparity was used to partition the States into four groups. Seventeen States (in the shaded, lower left area of the chart) had both expenditure and staffing disparity that were each below the corresponding National average. The seven States in the upper right exceeded the National average in both expenditure and staffing disparity. The 14 States in the upper left quadrant exceeded the National average in expenditure disparity but not in staffing disparity. For these States, the large teacher disparity may be a function of population density. The remaining 10 States (in the lower right) had lower than average staffing disparity but higher than average expenditure disparity. These may contain school districts where costs are higher than in the remainder of the State. Because teacher disparity is generally low and expenditure disparity high, large wage differentials among school districts may account for the large expenditure disparity. For example, in Virginia, the difference between teacher and expenditure disparities could be due to the higher salaries paid to teachers in metropolitan areas with higher costs of living compared to rural areas.

One of the major causes of expenditure and teacher disparities is variation in the financial resources available to school districts. Property taxes are the most important revenue generator for elementary/secondary education. The size of property tax revenue is contingent upon the value of the property to be taxed and the tax rate applied to that property wealth. Given the same tax rate, areas with greater property wealth can raise more tax revenue than areas with lower property wealth. On the other hand, an area with twice the property wealth of another area can raise an equal amount of revenue by imposing a tax rate only half the rate of the lower wealth area.

Theil coefficients of property value provide a measure of the task facing States in lowering expenditure disparities (entry 7.9). The chart indicates that expenditure disparity was generally less than disparity in property value per pupil. Disparities in the computational tax rate (defined as the property tax revenue plus funding from parent governments for dependent school districts, divided by property value) are less than property value disparities in almost all States. Expenditure disparities are also less than computational tax rate disparities. Given two States with equal property value or tax rate coefficients, the State with the lower expenditure disparity is generally exerting a greater fiscal effort to reduce expenditure disparity.

Of the four school district characteristics —expenditures, teachers, property values, and tax rates—the measure with the greatest variability is property value. Property value disparities were greater than tax rate disparities, expenditure disparities, and teacher disparities, in that order. But differences in property values do not generally translate into similar variations in expenditures or teacher resources. Large property value disparities generally are translated into less significant expenditure and teacher disparities by the school finance plans initiated by State authorities. State and local governments have made an effort to reduce educational resource disparities in light of the substantial variation in the fiscal resources.

Table 7.1
Revenue per pupil for public elementary and secondary schools, by source and by State: 1976–77

State	Total	Revenue per pupil					
		Federal		State		Local	
		Amount	Percent of total	Amount	Percent of total	Amount	Percent of total
United States	$1,700	$150	8.8	$738	43.4	$813	47.8
Alabama	1,175	193	16.4	719	61.2	263	22.4
Alaska	3,307	276	8.4	2,381	72.0	650	19.7
Arizona	1,745	174	10.0	865	49.6	706	40.4
Arkansas	1,136	177	15.6	566	49.8	393	34.6
California	1,891	162	8.6	765	40.4	964	51.0
Colorado	1,925	124	6.4	715	37.2	1,086	56.4
Connecticut	1,598	84	5.3	394	24.7	1,120	70.1
Delaware	2,012	196	9.7	1,378	68.5	438	21.8
District of Columbia	2,094	795	37.9	1,299	62.1	0	.0
Florida	1,629	166	10.2	867	53.2	596	36.6
Georgia	1,191	152	12.8	557	46.8	482	40.4
Hawaii	1,737	241	13.9	1,497	86.1	0	.0
Idaho	1,212	140	11.6	518	42.8	553	45.7
Illinois	1,817	119	6.5	696	38.3	1,002	55.1
Indiana	1,457	86	5.9	720	49.4	651	44.7
Iowa	1,753	101	5.8	665	38.0	986	56.3
Kansas	1,537	128	8.3	606	39.4	803	52.3
Kentucky	1,264	173	13.7	725	57.4	366	29.0
Louisiana	1,377	248	18.0	738	53.6	391	28.4
Maine	1,294	119	9.2	575	44.4	600	46.4
Maryland	1,968	151	7.7	779	39.6	1,038	52.7
Massachusetts	2,261	113	5.0	715	31.6	1,434	63.4
Michigan	1,849	118	6.4	823	44.5	908	49.1
Minnesota	2,012	121	6.0	1,167	58.0	725	36.0
Mississippi	1,017	236	23.3	578	56.9	202	19.9
Missouri	1,343	127	9.4	487	36.3	729	54.3
Montana	1,796	175	9.7	907	50.5	714	39.8
Nebraska	1,571	121	7.7	308	19.6	1,142	72.7
Nevada	1,519	111	7.3	548	36.1	860	56.6
New Hampshire	1,386	82	5.9	115	8.3	1,189	85.8
New Jersey	2,129	128	6.0	784	36.8	1,218	57.2
New Mexico	1,474	314	21.3	912	61.9	247	16.8
New York	2,382	142	5.9	925	38.8	1,315	55.2
North Carolina	1,234	182	14.7	787	63.8	266	21.5
North Dakota	1,572	185	11.8	685	43.6	702	44.7
Ohio	1,436	92	6.4	583	40.6	762	53.0
Oklahoma	1,415	171	12.1	753	53.2	491	34.7
Oregon	1,986	164	8.3	509	25.6	1,313	66.1
Pennsylvania	1,891	165	8.7	845	44.7	881	46.6
Rhode Island	1,628	142	8.7	520	31.9	967	59.4
South Carolina	1,304	222	17.0	711	54.5	371	28.5
South Dakota	1,447	194	13.4	253	17.5	1,000	69.1
Tennessee	1,246	156	12.5	599	48.1	491	39.4
Texas	1,465	171	11.7	683	46.7	610	41.7
Utah	1,388	136	9.8	748	53.9	505	36.4
Vermont	1,660	113	6.8	462	27.8	1,085	65.3
Virginia	1,526	168	11.0	494	32.4	863	56.6
Washington	1,695	155	9.1	1,020	60.1	521	30.7
West Virginia	1,370	147	10.8	833	60.8	390	28.5
Wisconsin	1,742	85	4.9	626	36.0	1,030	59.2
Wyoming	2,015	143	7.1	587	29.1	1,285	63.8

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Revenues and Expenditures for Public Elementary and Secondary Education, 1976–77*, 1978.

Chart 7.1
Per Pupil Revenue by Source

In 26 States the largest proportion of revenue came from State government and in 25 States local sources provided the greatest percentage of total income.

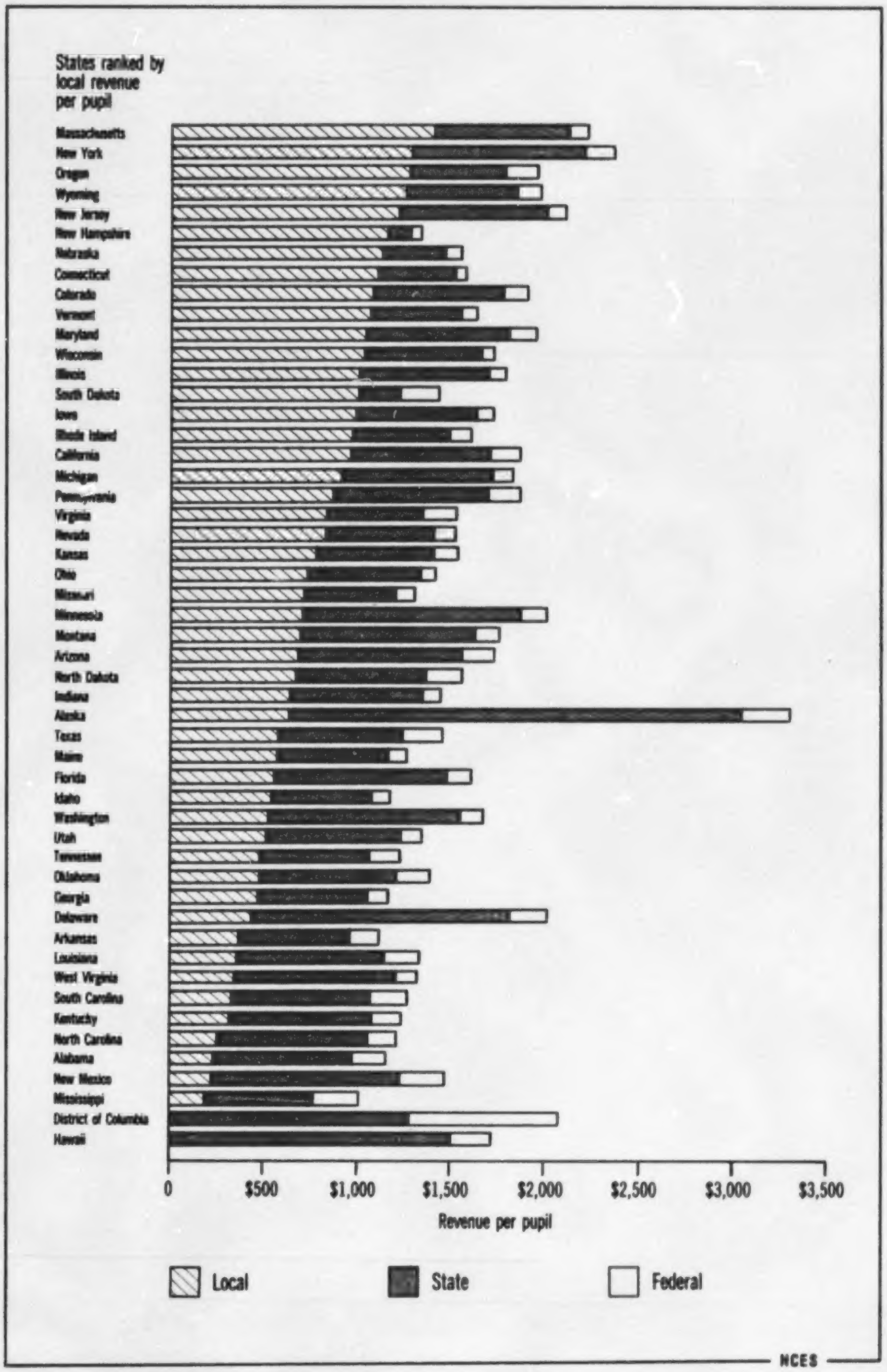


Table 7.2

Public elementary/secondary school enrollment, by core current expenditures per pupil: 1976–77

Expenditure per pupil interval	Enrollment	Percentage distribution
Total	40,554,123	100.0
Under $1,000	2,798,235	6.9
$1,000 to $1,199	6,285,889	15.5
$1,200 to 1,399	6,934,755	17.1
$1,400 to $1,599	7,583,621	18.7
$1,600 to $1,799	5,555,915	13.7
$1,800 to $1,999	4,379,845	10.8
$2,000 to $2,199	2,676,572	6.6
$2,200 to $2,399	1,419,394	3.5
$2,400 to $2,599	729,975	1.8
$2,600 and over	2,189,923	5.4

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 7.2
Enrollment and Per-Pupil Core Current Expenditure Category

School districts which spent under $1,800 per pupil enrolled more than 70 percent of students.

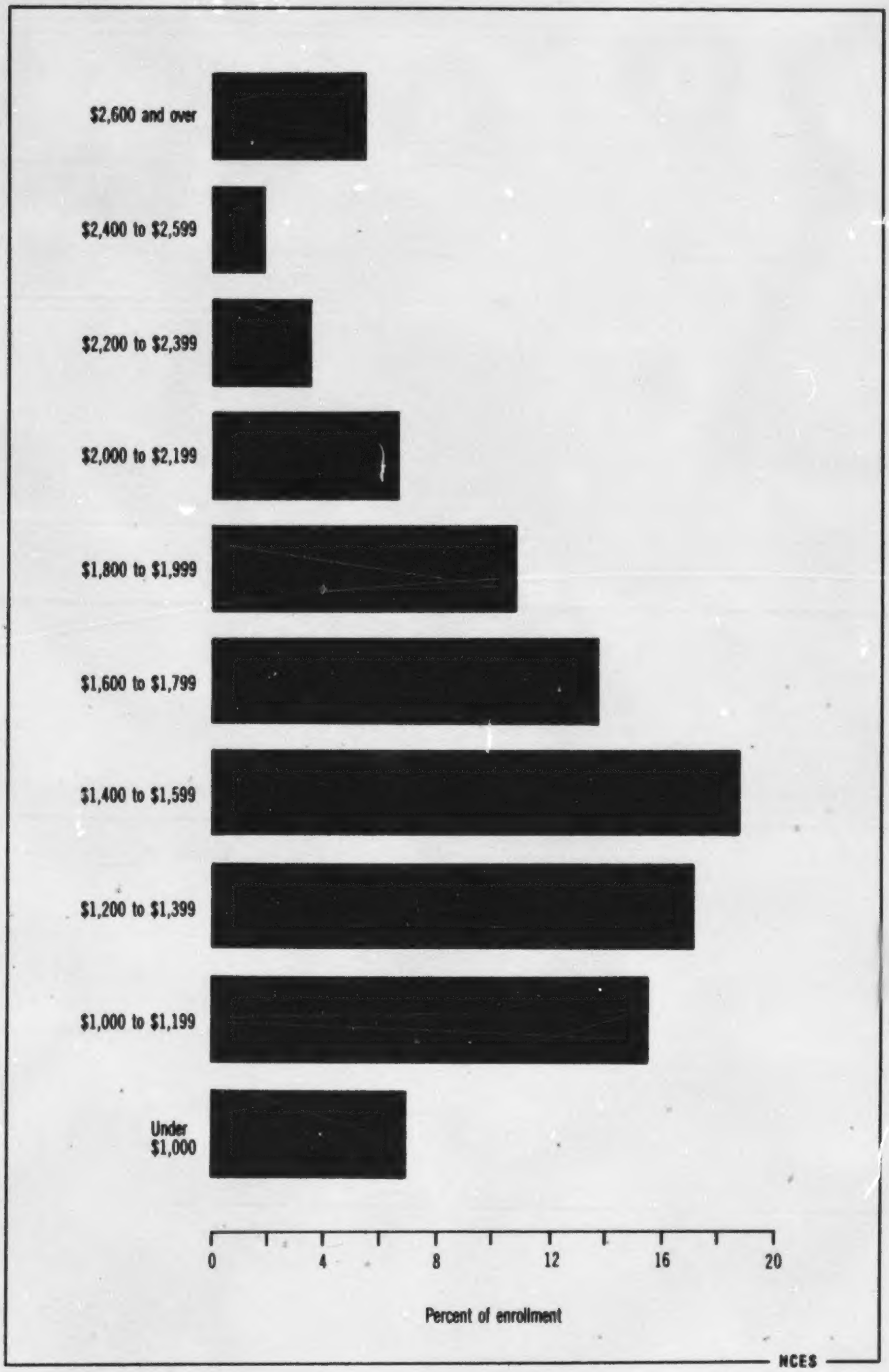


Table 7.3
Core current education expenditures[1] per pupil, by State: 1976–77

State	Average (mean)	5th percentile	95th percentile
Alabama	$ 757	$ 637	$ 950
Alaska	2,406	2,104	3,722
Arizona	1,214	985	1,410
Arkansas	812	624	1,126
California	1,521	1,249	1,926
Colorado	1,438	1,109	1,846
Connecticut	1,443	1,068	1,955
Delaware	1,380	1,039	2,090
District of Columbia	1,914	1,914	1,914
Florida	1,255	1,004	1,508
Georgia	931	720	1,356
Hawaii	1,559	1,559	1,559
Idaho	942	781	1,144
Illinois	1,384	986	1,814
Indiana	1,048	799	1,301
Iowa	1,376	1,205	1,537
Kansas	1,228	970	1,408
Kentucky	848	652	1,108
Louisiana	946	784	1,110
Maine	1,036	832	1,335
Maryland	1,544	1,220	2,001
Massachusetts	1,655	1,210	2,712
Michigan	1,351	982	1,770
Minnesota	1,362	1,075	2,061
Mississippi	811	603	1,109
Missouri	1,100	705	1,535
Montana	NA	NA	NA
Nebraska	1,355	1,074	1,784
Nevada	1,215	1,193	1,371
New Hampshire	1,049	842	1,323
New Jersey	1,600	1,245	2,112
New Mexico	1,186	1,019	1,512
New York	2,210	1,565	2,876
North Carolina	1,003	850	1,287
North Dakota	1,287	975	1,567
Ohio	1,199	843	1,639
Oklahoma	936	708	1,190
Oregon	1,554	1,260	1,750
Pennsylvania	1,375	1,020	1,810
Rhode Island	1,443	1,118	1,705
South Carolina	844	683	1,092
South Dakota	1,058	893	1,342
Tennessee	881	631	1,181
Texas	1,046	801	1,326
Utah	1,052	948	1,236
Vermont	1,315	934	1,850
Virginia	1,122	844	1,536
Washington	1,383	1,004	1,798
West Virginia	1,034	918	1,171
Wisconsin	1,448	1,166	1,807
Wyoming	1,426	1,202	1,811

NA Not available.

[1] Core current expenditures are calculated by subtracting food services and transportation costs from total expenditures to create a consistent measure of education expenditures for all States. Data include only school district expenditures; State and intermediate expenditures are excluded.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 7.3
Core Current Education Expenditure Per Pupil

Within-State expenditures varied substantially in every State with more than one school district.

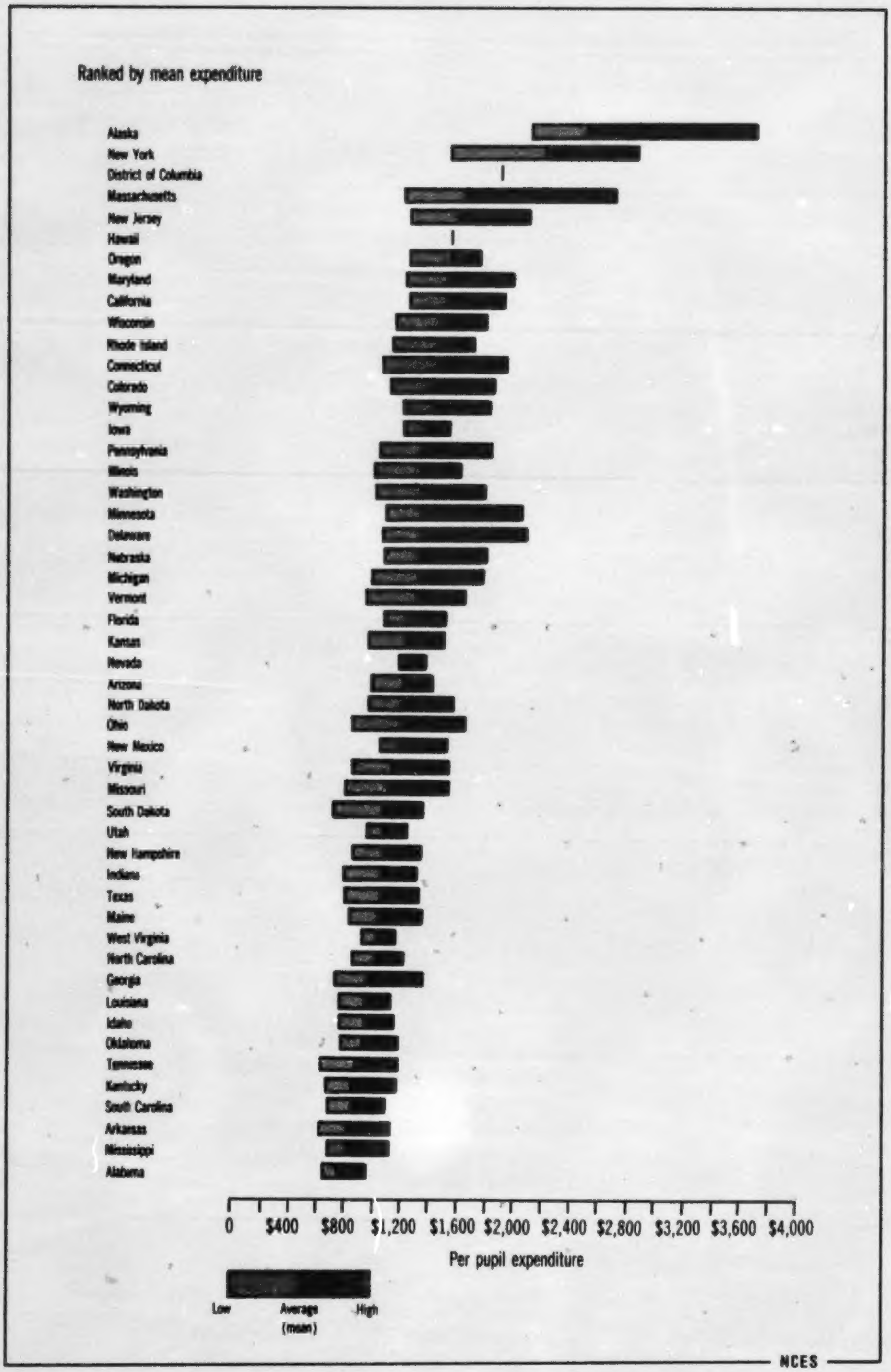


Table 7.4
Number of classroom teachers per 1,000 pupils, by State: 1969–70 and 1976–77

State	1976–77			1969–70		
	Average (mean)	5th percentile	95th percentile	Average (mean)	5th percentile	95th percentile
Alabama	39.2	26.0	47.5	40.1	36.1	45.9
Alaska	44.6	38.5	55.6	45.1	39.8	52.9
Arizona	37.5	26.3	54.0	NA	NA	NA
Arkansas	43.5	36.4	54.0	38.8	31.6	47.1
California	38.4	33.1	45.8	35.8	26.8	43.2
Colorado	45.4	36.8	61.0	43.1	38.6	46.4
Connecticut	48.4	41.9	58.2	49.4	43.1	55.8
Delaware	50.5	46.0	55.5	45.4	43.3	47.5
District of Columbia	48.1	48.1	48.1	47.7	47.7	47.7
Florida	43.5	38.5	49.3	42.6	36.0	47.0
Georgia	40.5	34.1	48.0	39.4	35.8	46.7
Hawaii	45.2	45.2	45.2	41.0	41.0	41.0
Idaho	43.1	37.6	52.4	41.8	37.8	51.1
Illinois	41.9	34.6	55.0	NA	NA	NA
Indiana	42.4	35.9	50.0	44.0	40.3	50.5
Iowa	48.9	38.0	63.5	47.9	39.7	61.8
Kansas	51.5	41.2	75.0	49.8	42.8	62.0
Kentucky	46.1	40.4	52.9	42.7	39.4	45.6
Louisiana	41.4	34.3	50.2	43.8	39.9	48.5
Maine	47.2	40.5	56.5	47.0	40.6	58.8
Maryland	41.5	35.5	46.8	43.1	40.6	47.3
Massachusetts	49.3	40.7	56.6	46.7	36.0	57.5
Michigan	37.9	32.6	46.4	40.5	34.8	46.6
Minnesota	43.9	35.7	56.4	44.5	34.0	51.9
Mississippi	45.2	38.9	52.9	42.2	34.9	48.2
Missouri	44.9	36.1	58.3	43.6	36.0	68.3
Montana	NA	NA	NA	NA	NA	NA
Nebraska	55.1	42.5	98.7	45.7	36.4	63.0
Nevada	36.0	32.7	50.2	38.5	37.7	40.8
New Hampshire	48.3	32.6	55.5	49.1	45.0	56.8
New Jersey	50.6	40.9	60.4	44.4	37.2	52.5
New Mexico	44.0	39.9	53.9	41.8	37.1	58.4
New York	45.1	37.4	55.1	43.1	38.4	49.6
North Carolina	41.1	35.9	47.1	39.7	36.4	42.7
North Dakota	48.1	35.2	62.3	48.1	39.9	66.0
Ohio	41.7	33.2	50.1	NA	NA	NA
Oklahoma	45.3	37.7	60.3	39.6	36.3	47.8
Oregon	45.6	38.4	55.1	45.8	41.5	55.1
Pennsylvania	47.3	37.7	55.7	44.2	38.4	53.2
Rhode Island	47.6	40.7	53.9	45.9	42.0	51.7
South Carolina	41.8	37.9	47.2	38.8	35.3	43.0
South Dakota	47.8	24.9	85.1	50.3	43.1	68.1
Tennessee	40.4	34.4	46.1	38.5	32.7	43.5
Texas	44.6	35.1	56.5	38.0	33.8	47.9
Utah	36.4	30.4	43.3	37.0	34.0	39.4
Vermont	53.7	42.5	66.2	63.2	53.5	85.9
Virginia	44.6	35.0	51.8	33.5	37.9	48.4
Washington	37.8	30.5	45.2	41.0	36.9	44.5
West Virginia	44.9	39.3	51.6	41.9	38.2	46.5
Wisconsin	45.8	37.3	55.1	44.0	38.3	53.7
Wyoming	54.5	42.9	76.9	51.2	44.4	102.3

NA: Not available.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 7.4
Elementary/Secondary Classroom Teachers Per 1,000 Pupils

The State average number of classroom teachers ranged between 36 and 55 teachers per 1,000 pupils.

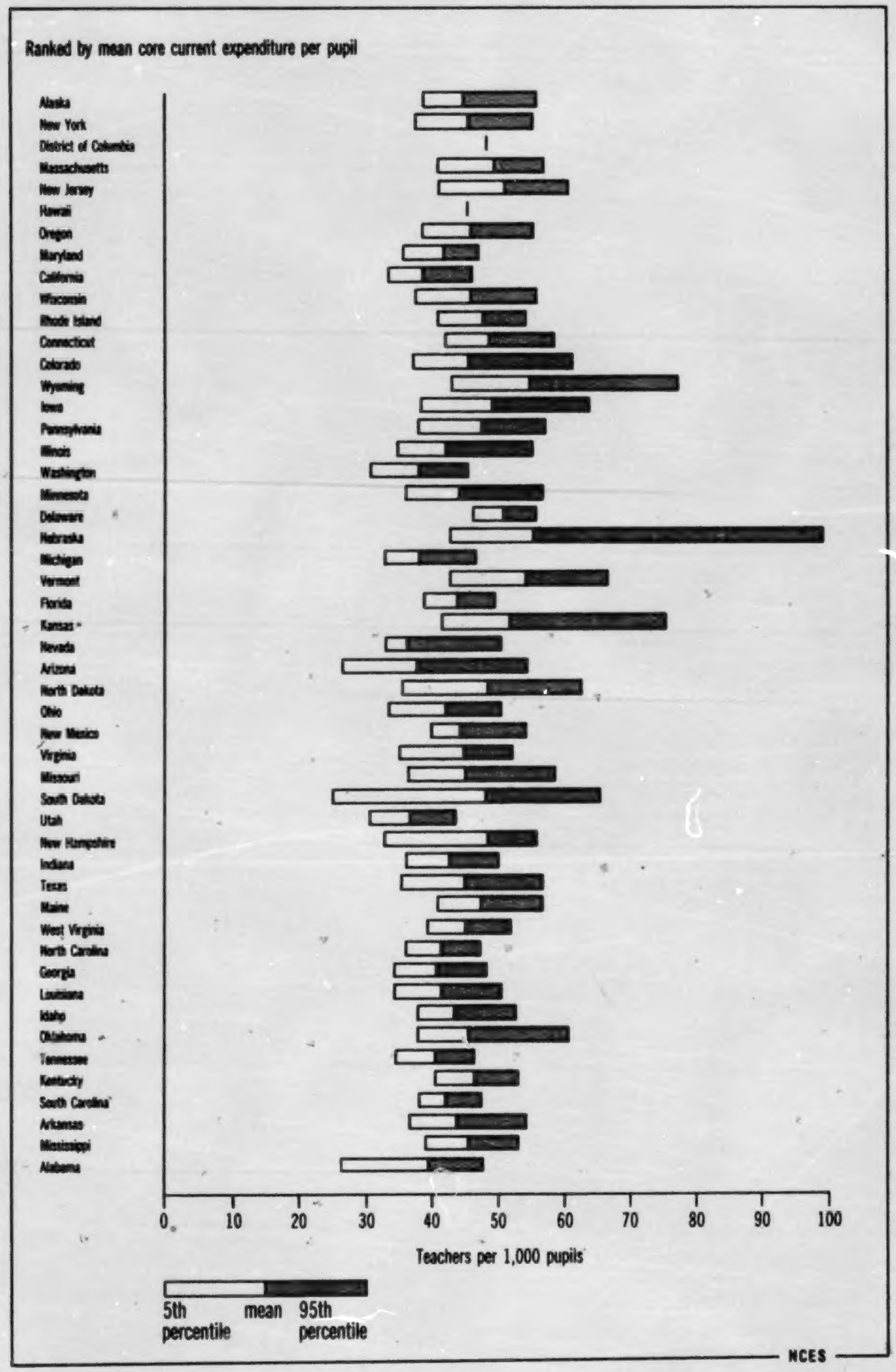


Table 7.5
Personal income per capita, and core current education expenditures, by State: 1976–77

State	Per capita personal income in 1976	Per pupil core current education expenditures[1]
Alabama	$ 5,120	$ 961
Alaska	10,254	2,084
Arizona	5,831	1,342
Arkansas	4,849	885
California	7,219	1,614
Colorado	6,523	1,415
Connecticut	7,312	1,481
Delaware	7,122	1,506
District of Columbia	8,071	1,913
Florida	6,101	1,206
Georgia	5,511	1,045
Hawaii	7,180	1,537
Idaho	5,859	981
Illinois	7,310	1,409
Indiana	6,256	1,121
Iowa	6,105	1,427
Kansas	6,475	1,266
Kentucky	5,407	898
Louisiana	5,347	1,015
Maine	5,350	1,040
Maryland	6,994	1,545
Massachusetts	6,627	1,717
Michigan	6,706	1,546
Minnesota	6,227	1,528
Mississippi	4,538	881
Missouri	5,963	1,118
Montana	5,848	1,479
Nebraska	7,208	1,708
Nevada	5,285	1,158
New Hampshire	6,001	1,163
New Jersey	6,929	1,937
New Mexico	5,467	1,026
New York	5,758	1,231
North Carolina	6,852	1,411
North Dakota	7,282	1,235
Ohio	6,395	1,227
Oklahoma	5,700	1,113
Oregon	6,374	1,503
Pennsylvania	6,300	1,556
Rhode Island	3,106	1,492
South Carolina	5,101	971
South Dakota	5,843	1,116
Tennessee	5,293	1,037
Texas	6,158	1,144
Utah	5,419	1,077
Vermont	6,401	1,283
Virginia	6,315	1,213
Washington	5,476	1,082
West Virginia	6,004	1,441
Wisconsin	6,123	1,483
Wyoming	6,768	1,542

[1] Expenditures include those for all school districts, State, and intermediate expenditures.

SOURCE: Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 7.5
Personal Income Per Capita and Expenditure Per Pupil

There was a strong positive correlation between per pupil expenditures and personal income. States with higher personal incomes spent more per pupil than did poorer States.

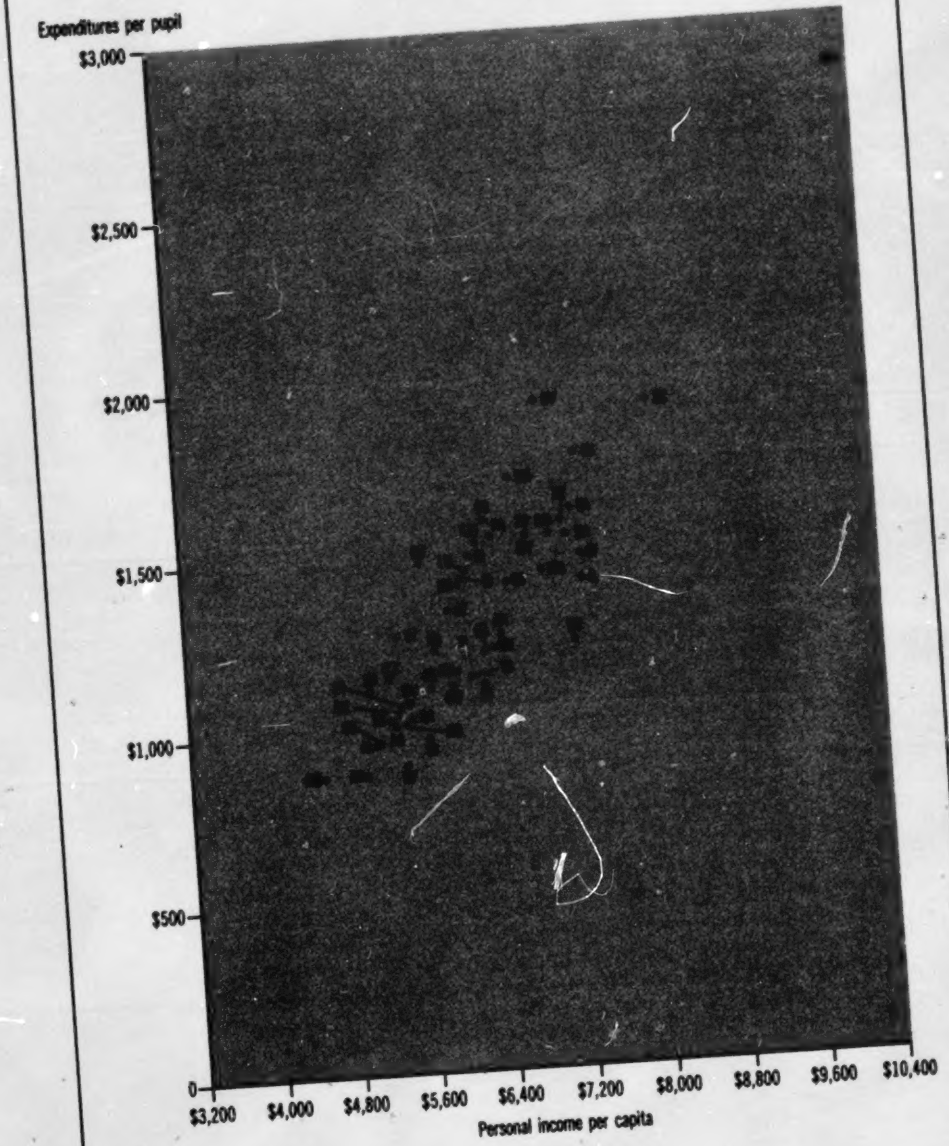


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Table 7.6

Theil coefficients of disparity in core current expenditure per pupil, by State: 1969–70 and 1976–77

State	Theil coefficients	
	1969–70	1976–77
U.S. average among State disparity	0.0300	0.0350
U.S. average within State disparity	.0158	.0155
Alabama	.0046	.0073
Alaska	.0097	.0240
Arizona	.0039	.0090
Arkansas	.0142	.0158
California	.0174	.0094
Colorado	.0127	.0147
Connecticut	.0316	.0169
Delaware	.0124	.0238
Florida	.0075	.0071
Georgia	.0130	.0183
Idaho	.0066	.0103
Illinois	.0209	.0154
Indiana	.0147	.0122
Iowa	.0169	.0026
Kansas	.0105	.0100
Kentucky	.0137	.0208
Louisiana	.0044	.0072
Maine	.0202	.0109
Maryland	.0086	.0105
Massachusetts	.0143	.0284
Michigan	.0168	.0195
Minnesota	.0080	.0163
Mississippi	.0117	.0102
Missouri	.0281	.0252
Nebraska	.0134	.0148
Nevada	.0027	.0024
New Hampshire	.0068	.0096
New Jersey	.0107	.0113
New Mexico	.0075	.0079
New York	.0104	.0193
North Carolina	.0051	.0072
North Dakota	.0096	.0123
Ohio	.0229	.0254
Oklahoma	.0225	.0129
Oregon	.0039	.0065
Pennsylvania	.0269	.0213
Rhode Island	.0170	.0093
South Carolina	.0039	.0090
South Dakota	.0096	.0162
Tennessee	.0164	.0254
Texas	.0118	.0151
Utah	.0036	.0044
Vermont	.0277	.0140
Virginia	.0316	.0273
Washington	.0127	.0165
West Virginia	.0054	.0047
Wisconsin	.0070	.0102
Wyoming	.0159	.0107

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 7.6
Comparison of Disparities in Core Current Expenditure Per Pupil in 1969–70 and 1976–77

Between 1969–70 and 1976–77, expenditure disparities did not change significantly for those States between the diagonal lines. Improvement occurred in the 7 States below the lower diagonal; the 7 States above the upper diagonal showed greater disparity.

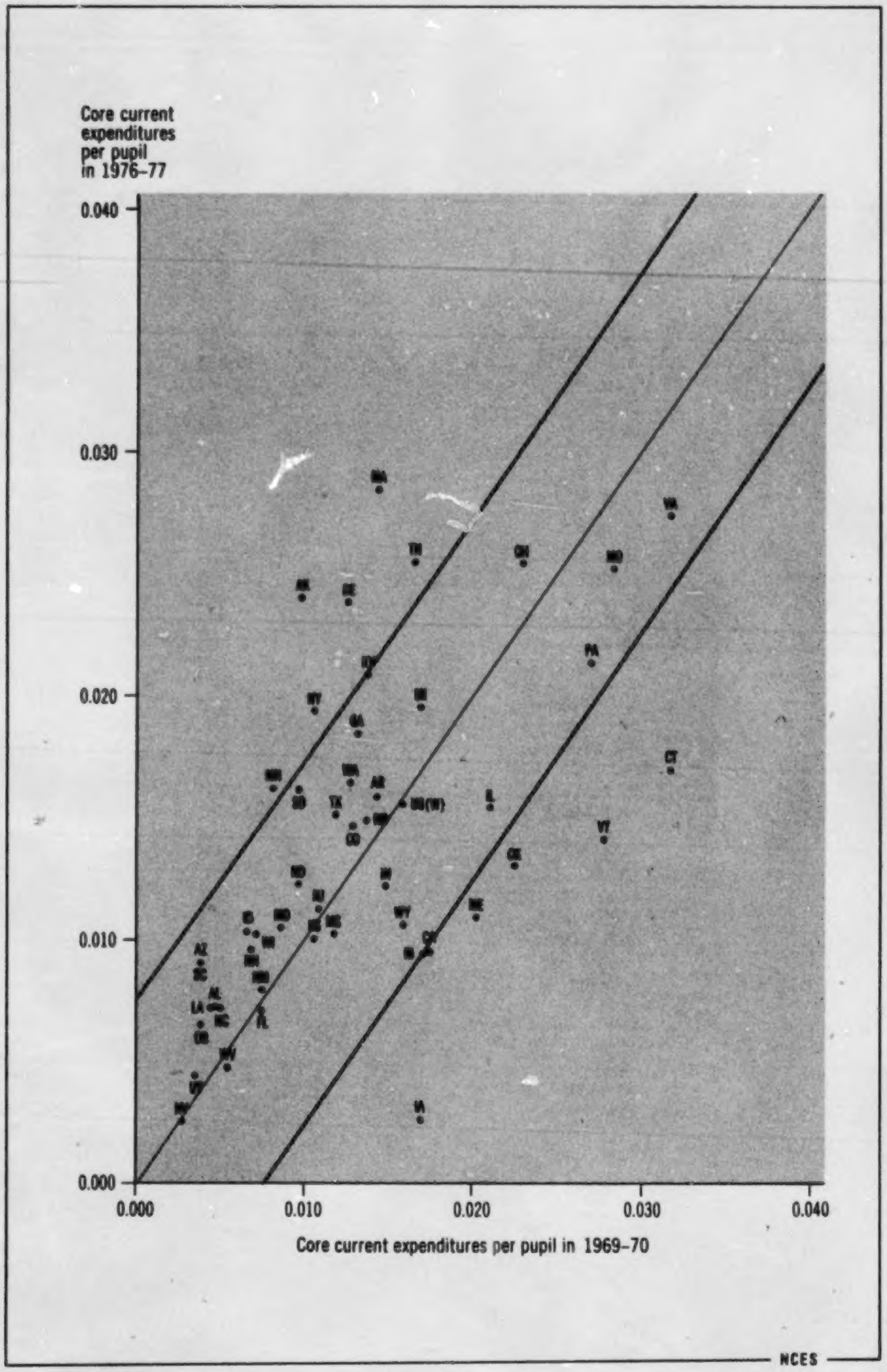

Table 7.7
Theil coefficients of disparities in classroom teachers per 1,000 pupils, by State: 1969–70 and 1976–77

State	Theil coefficients	
	1969–70	1976–77
U.S. among State theil	0.0036	0.0035
U.S. within State theil	.0064	.0084
Alabama	.0023	.0117
Alaska	.0072	.0131
Arizona	NA	.0213
Arkansas	.0072	.0079
California	.0333	.0051
Colorado	.0047	.0157
Connecticut	.0031	.0056
Delaware	.0011	.0120
Florida	.0030	.0033
Georgia	.0030	.0066
Idaho	.0054	.0060
Illinois	NA	.0103
Indiana	.0063	.0079
Iowa	.0094	.0122
Kansas	.0095	.0185
Kentucky	.0010	.0110
Louisiana	.0019	.0063
Maine	.0079	.0048
Maryland	.0013	.0034
Massachusetts	.0087	.0049
Michigan	.0055	.0069
Minnesota	.0066	.0106
Mississippi	.0040	.0047
Missouri	.0158	.0143
Nebraska	.0224	.0260
Nevada	.0006	.0116
New Hampshire	.0052	.0065
New Jersey	.0404	.0065
New Mexico	.0075	.0095
New York	.0148	.0074
North Carolina	.0015	.0037
North Dakota	.0087	.0166
Ohio	NA	.0086
Oklahoma	.0178	.0125
Oregon	.0081	.0075
Pennsylvania	.0046	.0082
Rhode Island	.0036	.0030
South Carolina	.0019	.0028
South Dakota	.0085	.0253
Tennessee	.0037	.0047
Texas	.0064	.0127
Utah	.0008	.0079
Vermont	.0107	.0083
Virginia	.0026	.0053
Washington	.0040	.0081
West Virginia	.0019	.0041
Wisconsin	.0072	.0145
Wyoming	.0360	.0221

NA: Not available.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 7.7
Comparison of Disparities in Classroom Teachers Per 1,000 Pupils in 1969–70 and 1976–77

California, New Jersey, and Wyoming had lower disparities in 1976–77 compared to 1969–70 in terms of the number of classroom teachers per 1,000 pupils. Eleven States showed greater disparity in 1976–77 than in 1969–70.

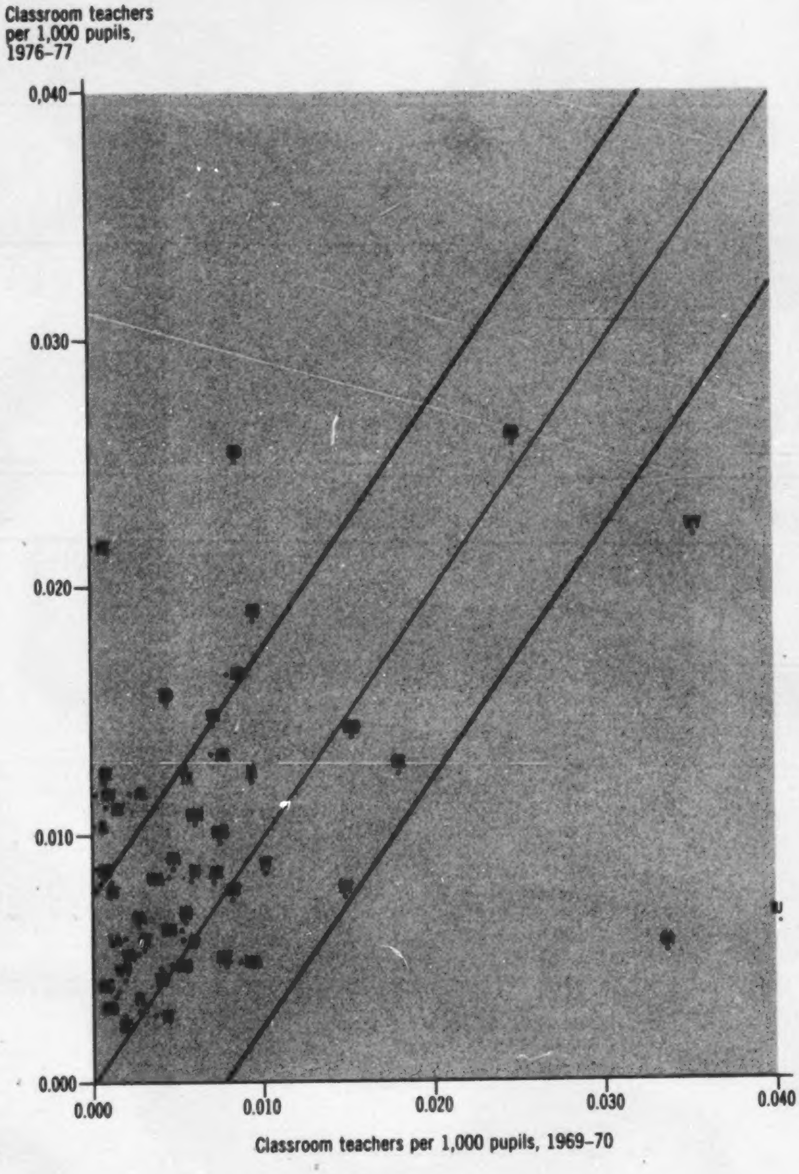

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Table 7.8
Theil coefficients of disparities in core current expenditures per pupil and classroom teachers per 1,000 pupils, by State, 1976–77

	Theil coefficients 1976–77	
State	Core current expenditures per pupil	Classroom teachers per 1,000 pupils
U.S. among State theil	0.0350	0.0035
U.S. within State theil	.0155	.0084
Alabama	.0073	.0117
Alaska	.0240	.0131
Arizona	.0090	.0213
Arkansas	.0158	.0079
California	.0094	.0051
Colorado	.0147	.0157
Connecticut	.0169	.0056
Delaware	.0238	.0120
Florida	.0071	.0033
Georgia	.0183	.0066
Idaho	.0103	.0060
Illinois	.0154	.0103
Indiana	.0122	.0079
Iowa	.0026	.0122
Kansas	.0100	.0185
Kentucky	.0208	.0110
Louisiana	.0072	.0063
Maine	.0109	.0048
Maryland	.0105	.0034
Massachusetts	.0284	.0049
Michigan	.0195	.0069
Minnesota	.0163	.0106
Mississippi	.0102	.0047
Missouri	.0252	.0143
Nebraska	.0148	.0280
Nevada	.0024	.0116
New Hampshire	.0096	.0065
New Jersey	.0113	.0065
New Mexico	.0079	.0095
New York	.0193	.0074
North Carolina	.0072	.0037
North Dakota	.0123	.0186
Ohio	.0254	.0088
Oklahoma	.0129	.0125
Oregon	.0065	.0075
Pennsylvania	.0213	.0082
Rhode Island	.0093	.0030
South Carolina	.0090	.0028
South Dakota	.0162	.0253
Tennessee	.0254	.0047
Texas	.0151	.0127
Utah	.0044	.0079
Vermont	.0140	.0083
Virginia	.0273	.0053
Washington	.0165	.0081
West Virginia	.0047	.0041
Wisconsin	.0102	.0145
Wyoming	.0107	.0221

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 7.8
Comparison of Teacher and Expenditure Disparity

The 17 States in the shaded area had both expenditure and teacher disparities that were below the National average within-State disparity.

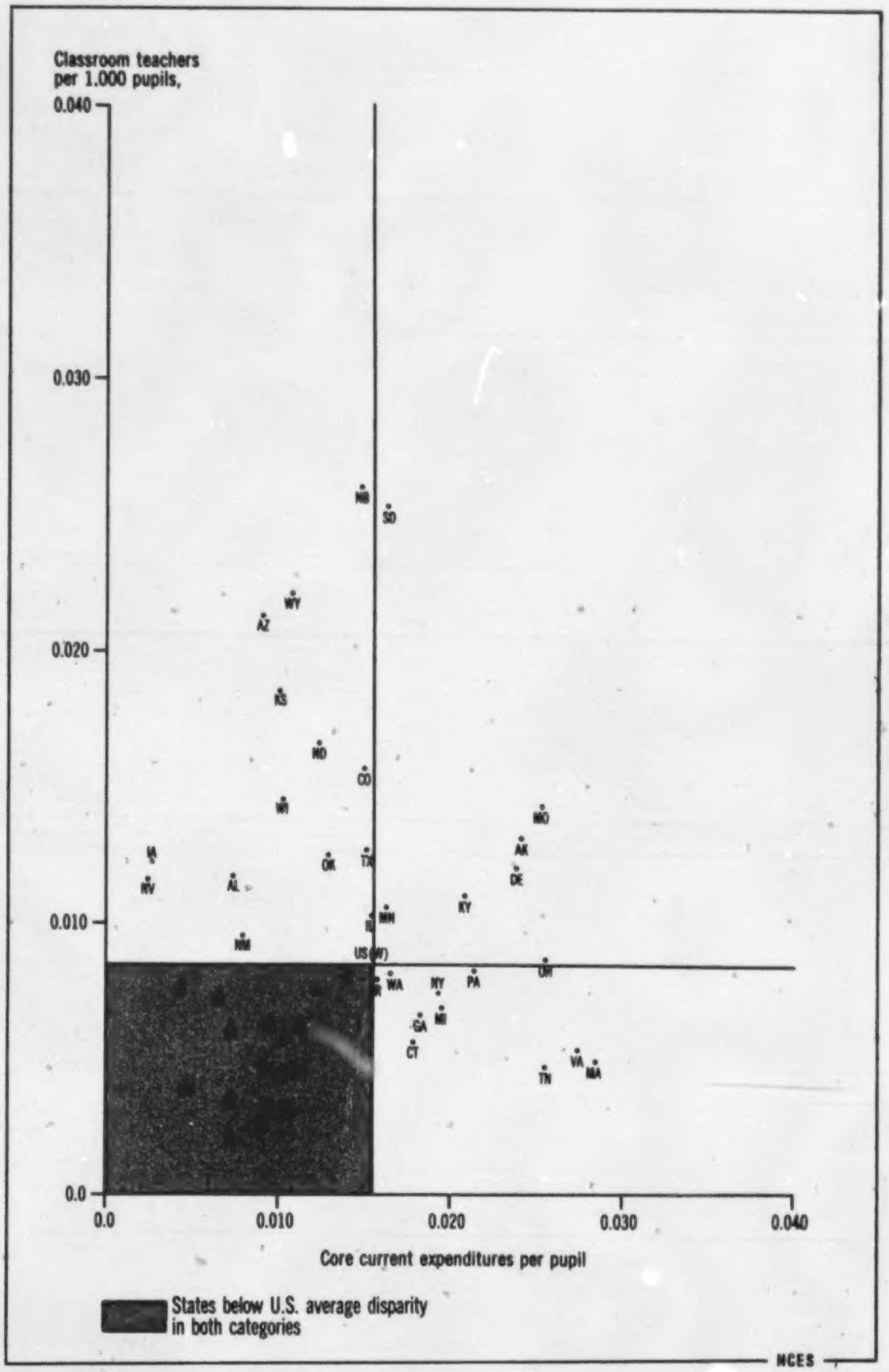


Table 7.9
Theil coefficients of disparities in core current expenditures per pupil, compared to property valuation per pupil, and computational tax rate, by State: 1976–77

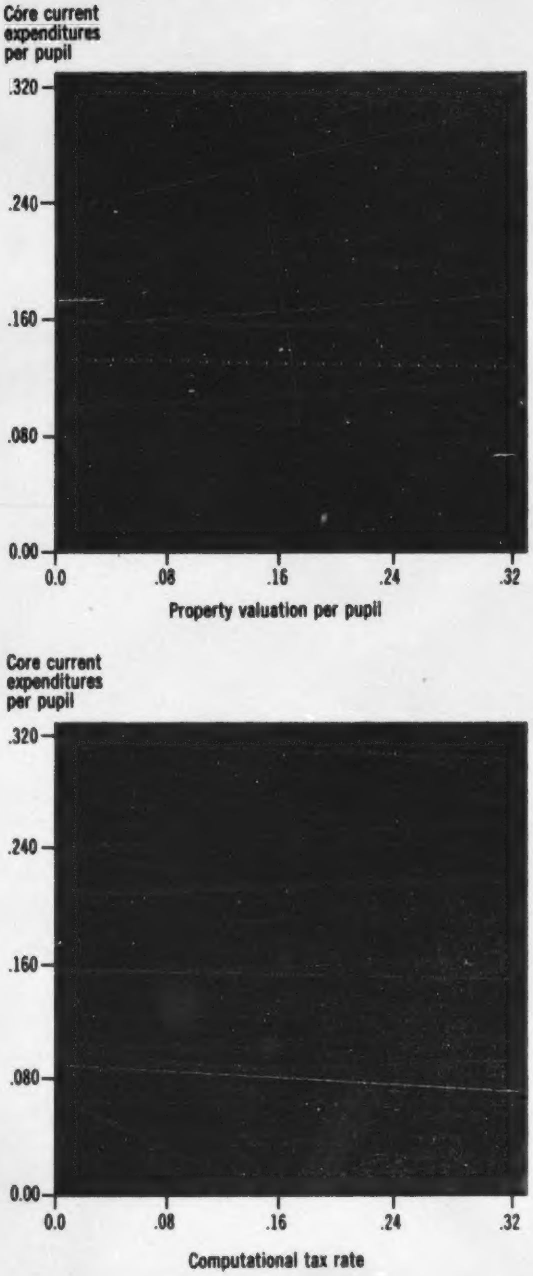
State	Theil coefficients		
	Core current expenditure per pupil	Property valuation per pupil	Computational tax rate
Alabama	0.00730	0.05870	.13048
Alaska	.02400	.02960	.02041
Arizona	.00900	.31997	.05058
Arkansas	.01580	.08888	.01049
California	.00940	.10103	.06962
Colorado	.01470	.15357	.02241
Connecticut	.01690	.07605	.04983
Delaware	.02380	.05000	.08418
Florida	.00710	.09105	.00796
Georgia	.01830	.10750	.22631
Idaho	.01030	.07600	.05323
Illinois	.01540	.08021	.03808
Indiana	.01220	.06813	.01956
Iowa	.00260	.09599	.02138
Kansas	.01000	.14015	.07968
Kentucky	.02080	.07916	.04403
Louisiana	.00720	.18367	.11898
Maine	.01090	.11862	.02558
Maryland	.01050	.05917	.00991
Massachusetts	.02840	.06912	.03578
Michigan	.01950	.07574	.01612
Minnesota	.01630	.20017	.03957
Mississippi	.01020	.15547	.16493
Missouri	.02520	.10203	.05842
Nebraska	.01480	.08775	.02058
Nevada	.00240	.03837	.00349
New Hampshire	.00960	.07554	.02019
New Jersey	.01130	.12601	.02496
New Mexico	.00790	.26021	.02786
New York	.01930	.06860	.02679
North Carolina	.00720	.08375	.11900
North Dakota	.01230	.07706	.05951
Ohio	.02540	.06956	.03140
Oklahoma	.01290	.18993	.06551
Oregon	.00650	.05522	.02376
Pennsylvania	.02130	.07373	.03792
Rhode Island	.00830	.02850	.00868
South Carolina	.00900	.04751	.04428
South Dakota	.01620	.12718	.04780
Tennessee	.02540	.10972	.14392
Texas	.01510	.26256	.69303[1]
Utah	.00440	.12310	.00780
Vermont	.01400	.07389	.02208
Virginia	.02730	.07726	.03629
Washington	.01650	.09922	.11807
West Virginia	.00470	.05934	.01626
Wisconsin	.01020	.12747	.07398
Wyoming	.01070	.25486	.01385

[1] Data not comparable because it includes receipts from Public Laws 81–815 and 81–874 as local revenue.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 7.9
Expenditure Per Pupil Compared to Property Value Per Pupil and Computational Tax Rate Per Pupil

Within-State expenditure disparities were lower than both property value and tax rate disparities.



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The Condition of Education

III Appendix

Data Sources

The information presented in this report derives from several sources including Federal and State agencies, private research organizations, and professional associations. The data are obtained using several research methods including universe and sample surveys, administrative records, and statistical projections.

Particular care should be taken in comparing data from different sources because of differences in reference periods, operational definitions, and collection techniques. Additionally, all data entries are subject to errors such as faulty survey design, incomplete response, incorrect processing, or biased interpretations.

The accompanying guide is designed to acquaint the reader with sources consulted in the preparation of this report. Government contributions are described first, followed by private research and professional associations. Additional information can be obtained by contacting directly the contributing organization.

National Center for Education Statistics

The National Center for Education Statistics (NCES) is the primary Federal agency for collecting, analyzing, and reporting of education statistics. It also coordinates data acquisition for the Office of Education and the Office for Civil Rights. In addition, NCES assists State data collection activities in an effort to promote efficiency and comparability. The National Center for Education Statistics collects data primarily through census or sample surveys of educational institutions. NCES also sponsors surveys of individuals designed to chart the post-high school experiences of young Americans, the employment outcomes of recent college graduates, and the lifelong learning activities of adults.

Surveys of Educational Institutions

Institutional characteristics obtained through several surveys provide information on school enrollment, organization, and support. Data on public elementary/secondary schools are collected annually from State departments of education. Statistics on privately controlled elementary/secondary education are gathered periodically from the universe of nonpublic schools. Annual surveys are also taken of institutions of higher education. These surveys cover a variety of subject areas including students, faculty, degrees, libraries, and finance. Data on noncollegiate postsecondary occupational education are collected periodically on a sample basis. More detailed information on survey instruments, sampling frames, and methodology can be obtained through the individual reports.

Surveys of Individuals

Recent College Graduate Survey

The 1978 Recent College Graduate Survey is the second in a series of biennial surveys providing information on employment and earnings prospects for college graduates. The data address several issues, including the economic returns of a college education, the supply and demand of professional personnel, and the relationship of Federal assistance to employment and postbaccalaureate education.

To obtain the data, the Recent College Graduate Survey used a two stage sample. For the first stage, a sample of 297 colleges and universities offering a bachelor's or master's degree was selected. The universe of schools was stratified by percent of graduates with degrees in education, by control, by whether or not the school emphasized special education, and by geographic region. A sample of 30 predominantly black institutions was included in the total of 297 institutions.

For the second stage sample, a listing of graduates with bachelor's and master's degrees was obtained from the selected schools. The graduates were stratified by level and by type of degree, and were then selected through systematic sampling. For the 1978 survey, 283 of the 297 schools responded (95 percent) and 7,922 graduates of the 11,025 in the sample responded (72 percent). A followup study of nonrespondents is being conducted for the 1978 survey to increase the response rate.

Additional information can be obtained from the National Center for Education Statistics, Division of Elementary and Secondary Education Statistics, Population Surveys Branch, 400 Maryland Avenue SW, Washington, DC 20202.

Adult Education Participation Survey

The Adult Education Participation Survey was conducted by the Bureau of the Census as a supplement to the Current Population Survey for the National Center for Education Statistics. The 1978 survey is the fourth in a series of triennial reports begun in 1969. The survey provides a broad picture of part-time educational activity within and outside the regular school system, reporting on adult education for occupational purposes, for general education and information, and for life enrichment.

The sample was composed of 54,000 households in the 50 States and the District of Columbia and data were collected about adult education participation on approximately two persons within each household.

In 1978, adult education activities of full-time students in high school or college were included for the first time in the counts of participants in adult education. In the 1978 survey, information on courses taken by full-time students in occupational programs of 6-months or more duration was collected, but was excluded from the participation counts in the adult education statistics. The 1978 survey reports separately the population characteristics for programs of 6-months or more duration, as well as for full-time students. Course characteristics are reported for participants in adult education, including data on courses taken for job-related reasons, and for courses sponsored by 2-year colleges and vocational-technical institutes and by vocational schools.

Further information is available from the National Center for Education Statistics, Division of Postsecondary and Vocational Education Statistics, Adult and Vocational Education Statistics Branch, 400 Maryland Avenue SW, Washington, DC 20202.

National Institute of Education

National Assessment of Educational Progress

The National Assessment of Educational Progress (NAEP) collects data on achievement of young Americans in several subject areas. The exercises are administered to carefully selected representative samples of 9-year-olds, 13-year-olds, 17-year-olds, and young adults aged 26 to 35. Results are reported for each age level and by region, sex, racial group, parental education, and size and type of community, using weighted percentages of correct responses to specific exercises. Each reported percentage is an estimate of the percentage of persons in a given group who could have given a certain acceptable response to a specific exercise.

For more information on the NAEP design and methodology, see National Assessment of Educational Progress, report 03/04–GY, General Information Yearbook (Washington, DC: Government Printing Office, 1974).

Administration for Children, Youth and Families
National Day Care Study

The National Day Care Study (NDCS) sponsored by the Administration for Children, Youth and Families, and conducted by Abt Associates, presents a statistical profile of the characteristics of center-based day care in the United States. It provides information about enrollment, programs, services, staff, finances, and compliance with Federal and State regulations. Tabulations are provided at both the National and State levels. Comparative statistics are reported that contrast the characteristics of different types of centers.

The data were obtained from a telephone survey of 3,167 day care centers and, to a limited extent, from followup on-site interviews in 70 day care centers. The original sampling frame of centers was compiled largely from lists of licensed centers provided by State day care offices. An extensive effort was made to augment those lists with names of unlicensed centers. Because the State lists were up to 3 years old, the survey may understate newly established centers as well as the total count. The sample was stratified by State, and centers were then selected in proportion to the State's total number of centers.

The study focused on those types of day care programs that are large and stable and open enough hours per week and weeks per year to suit the needs of working parents. As a result, day care centers, the sampling unit used in the study, were defined very precisely to have the following characteristics: provide non-live-in day care services; open at least 25 hours per week; capacity for 13 or more children; operate at least 9 months per year; and majority of enrollment is nonhandicapped. A center did not have to be licensed by a State or local agency to be included in the survey, although virtually all participants were licensed.

Further information is available from the U.S. Department of Health, Education, and Welfare, Administration for Children, Youth and Families, Washington, DC 20202.

National Science Foundation
National Survey of Science, Mathematics, and Social Studies Education

The National Survey of Science, Mathematics, and Social Studies Education was funded by the National Science Foundation to provide representative data on State and local supervision, course offerings, and instructional resources in these fields in elementary/secondary schools. The study was conducted by the Research Triangle Institute through the responses of State and local education officials, principals, and teachers.

A sample of approximately 400 public school districts was selected from 102 primary sampling units stratified by region, metropolitan status, and size. Listings of public schools and their associated districts and nonpublic schools were obtained from the Curriculum Information Center. Private schools were attached to school districts by zip codes. Within each primary sampling unit, approximately four districts were selected with probabilities proportional to the total district enrollment. In each district, the schools were divided into those providing grades 7 to 9 and those providing grades 10 to 12 and then selected in proportion to their estimated grade enrollment. Each participating school principal provided a list of all science, mathematics, and social studies teachers ordered by grade from which the teacher sample was drawn. If the participating teacher taught more than one subject or group of students, one class was randomly selected as representative.

Questionnaires were mailed out in several waves to superintendents, district supervisors, principals, and teachers beginning in January of 1977. Data collection activities were completed by the summer of that year, yielding response rates ranging from 72 percent for district supervisors and 76 percent for teachers to 90 percent for State supervisors.

A fuller description of the research methodology is contained in *Report of the 1977 National Survey of Sciences, Mathematics, and Social Studies Education,* available from the National Science Foundation, 1800 G Street, Washington, DC 20550.

Bureau of the Census

Current Population Survey

The Bureau of the Census provides data through a regular program of data collection and through supplements conducted for other organizations. The Census mechanism for data collection cited most frequently in this report is the Current Population Survey (CPS). The data on preprimary and adult education and on educational attainment and labor force participation of the population were collected from the CPS or supplements to it.

The primary purpose of the CPS is to obtain a monthly measure of labor-force participation for the Bureau of Labor Statistics. It gathers data on the employment status of the civilian resident noninstitutionalized population, 16 years old and over. In addition, it provides monthly population estimates as well as annual data on such characteristics of the population as income, schooling, age, racial/ethnic origin, sex, marital status, and living arrangements. Various governmental agencies utilize CPS to obtain specific information.

The current CPS sample is spread over 614 areas covering each of the 50 States and the District of Columbia. Approximately 54,000 occupied housing units comprise the sampling frame sites for interviews each month. Of this number, 2,500 occupied units, on the average, are visited without obtaining interviews because the occupants are not found at home after repeated calls or are unavailable for some other reason. In addition to the 2,500, about 10,000 sample units are visited during an average month but are found to be vacant or the occupants are not available to be interviewed.

More detailed information is contained in Series P–20 reports, available from the U.S. Department of Commerce, Bureau of the Census, Washington, DC 20233.

Government Finance Survey

The Governments Division of the Bureau of the Census annually collects and reports data on Federal, State, and local revenues and expenditures. Federal financial data were obtained primarily from 1977 data presented in *The Budget of the United States Government for the Fiscal Year, 1980*. Annual reports of the Secretary of the Treasury and of the Commissioner of Internal Revenue provided additional detail. Amounts of Federal payments to State and local governments were obtained in some detail from the contributing Federal agencies. Federal budget receipt and "budget expenditure" data were adjusted to conform to Census Bureau State and local government functional classifications.

State finance statistics were compiled by representatives of the Bureau of the Census from official records and reports of the various States. The figures were classified according to standard Census categories for reporting of State finances, and were subject to intensive review.

Local government data were estimated from a random sample of approximately 16,000 local units. Using the 1970 population as a base, the sample included all county governments having 50,000 or more inhabitants and all municipalities having 25,000 or more population. The sample also included governments whose relative importance in their State, based on expenditure or debt, was above a specified amount. A random selection of the remaining units was made from a compilation of all local governments within selected large standard metropolitan statistical areas (SMSAs), other major counties, and the balance of the State. From this list a random sample was chosen using probabilities that were based on the ratio of each government's annual expenditure or indebtedness to the State total. Usable replies were received from approximately 85 percent of the panel canvassed. For nonrespondent governmental units and agencies included in the panel, prior year data were utilized.

More detailed information is contained in *Government Finances in 1976–77*, available from the U.S. Department of Commerce, Bureau of the Census, Washington, DC 20233.

American Council on Education

American Freshman Survey

Sponsored by the American Council on Education (ACE), the annual survey of college freshmen is administered through the Cooperative Institutional Research Program at the University of California, Los Angeles. Since 1966 the survey has collected biographic and demographic data on career plans, educational aspirations, financial arrangements, and current attitudes of the Nation's entering freshman classes. The 1979 survey obtained usable information from 190,151 freshmen in 362 institutions of higher education listed with the Office of Education. Only data from institutions whose coverage of entering students was judged representative were used. The weighted data reflect the responses of first-time, full-time freshmen obtained during the initial weeks of the fall term.

A full discussion of the design and sampling procedures is provided in *The American Freshman: National Norms For Fall 1979,* available from the Cooperative Institutional Research Program, University of California, Los Angeles, CA 90024.

College Entrance Examination Board

Admissions Testing Program

The Admissions Testing Program (ATP) of the College Board has been used since the 1920's to help determine secondary school students' preparedness for college. Given in different editions several times a year at various locations throughout the country, the ATP aptitude and achievement tests are taken primarily by seniors but also by a large number of juniors and by a few others. The one million high school students who took the tests in 1979 represented about a third of all 1979 high school graduates and about two-thirds of all graduates who directly entered college. More than 91 percent of all students who took the ATP tests also responded to the Student Descriptive Questionnaire from which were drawn the data on intended college field of study and high school coursework.

Further information is available in *National College Bound Seniors, 1979,* from the College Entrance Examination Board, Suite 1418, 1700 Market Street, Philadelphia, PA 19103.

The Conference Board

Survey of Corporate Contributions

The Survey of Corporate Contributions has been conducted annually since 1974, and is sponsored jointly by the Conference Board and the Council for Financial Aid to Education. The 1977 study is the twelfth issued by the Board. The primary objective of the study is to provide benchmark data on corporate philanthropy for use by corporate contributions officers in program planning and budgeting.

The sample was selected to provide a cross-section of the corporate population based upon industry classification, geographic distribution, and the existence of a corporate contributions program. Of the 4,500 companies invited to participate, 814 completed the mailed questionnaire. All companies that have appeared in the Fortune Double 500 Directory in the past several years were included in the sample, thus weighting the sample selection toward large companies. Manufacturing companies accounted for a disproportionate share of the survey respondents.

In keeping with survey objectives to measure the flow of dollars actually reaching beneficiaries, the survey figures reflect dollars donated by corporate foundations to eligible beneficiaries in a calendar year. These contributions differ somewhat from the Internal Revenue Service (IRS) figures because the IRS reports dollars given by corporations to their foundations that may or may not be expended within the same year.

Further information is available from the Conference Board, 845 Third Avenue, New York, NY 10022.

Consortium for Longitudinal Studies

Lasting Effects After Preschool Study.

The Lasting Effects After Preschool Study analyzes the findings of longitudinal studies of low-income children who participated in experimental preschool intervention programs to examine the effectiveness of preschools using direct measures of children's school performance. Twelve investigators, members of the Consortium for Longitudinal Studies, collaborated by pooling their initial data and designing a common followup study. The programs involved in this Consortium were conducted independently of one another, mostly during the early and mid-1960's. They were carried out across the country, in urban and rural areas, in the Northeast, South, and Midwest. Children from low-income families who were enrolled in these programs ranged from 9 to 19 years old at the time of the followup in 1976–77.

In general, the projects included in this study came closer to true experimental designs than is typical in this sort of research. However, there was considerable variation from project to project. Several (Gray, Gordon, Weikart, and Palmer) closely approximated true random assignment. Others (Beller, Levenstein, and Zigler) would more accurately be called quasi-experiments. The Miller control group was found after-the-fact to be poorly matched with the experimental group. The analyses took such differences into account and were generally conducted in a manner that minimized the chances of obtaining spurious treatment/control differences.

The original data were reanalyzed and all new data were analyzed by an independent research group at Cornell University. Subjects were not combined into one pool before analyzing the data because of the biases that this could introduce. Instead, each project was analyzed separately and the results were pooled. Pooling results of these separate analyses was accomplished by a statistical technique that, in effect, tested whether there was an "average" overall effect of preschool programs on childrens' outcomes.

Inquiries should be addressed to Dr. Irving Lasar, Consortium for Longitudinal Studies, Cornell University, Ithaca, NY 14853.

Council for Financial Aid to Education

Survey of Voluntary Support of Education

The Survey of Voluntary Support of Education 1977–78 is the 19th in a series of studies in educational philanthropy dating from 1954–55. The cooperative sponsorship of the recent surveys by the Council for Financial Aid to Education (CFAE), the Council for Advancement and Support of Education, and the National Association of Independent Schools has resulted in a single survey that is an authoritative and detailed source of information on the voluntary financial support of institutions of higher education and nonpublic precollege schools.

College and university participation in the 1977–78 survey was 6 percent above the 1976–77 level. The number of private precollege schools in the 1977–78 survey, however, was about the same as in the 1976–77 survey. Of the 2,983 institutions invited to participate, 1,514 institutions, or 51 percent, completed the mailed questionnaires.

The definitions used in the 1977–78 survey are consistent with those used in prior years. Voluntary support excludes income from endowment and other invested funds, as well as all support received from Federal, State, and local governments and their agencies; in editing the survey questionnaires, the CFAE deleted all income from these sources when so identified by the reporting institution. Any enrollment figures not supplied by the colleges and universities were taken from the National Center for Education Statistics, HEGIS 1977–78 Survey.

Further information is available from the Council for Financial Aid to Education, 680 Fifth Avenue, New York, NY 10019.

Institute for Social Research

Monitoring the Future Study

The Monitoring the Future Study, conducted by the University of Michigan's Institute for Social Research (ISR), consists of a series of annual, nationwide questionnaire surveys of seniors in high schools, which began with the class of 1975. In addition, annual followup surveys are mailed to a subset of each sample for the first 6 years following graduation. This design, which samples young men and women from approximately 18 to 24 years old, provides information on four kinds of trends: (1) changes from one graduating class to another, (2) life cycle or maturational changes, (3) changes in particular years reflected across all age groups (secular trends), and (4) changes linked to different types of environments, such as college, military service, trade school, or employment.

The initial data collections each year take place in about 115 public and about 15 private high schools, selected by the Sampling Section of the Survey Research Center to provide an accurate cross-section of high school seniors throughout the United States. Within each school, up to 300 seniors are sampled. In schools with less than 300 seniors, the total senior class is included; in larger schools, a subset of seniors is selected. The total sample of seniors each year numbers about 18,000. In order to keep questionnaires short enough to be completed in about 45 minutes, and yet cover a wide range of topics, five different questionnaire forms are used; therefore, the sample for any given form includes about 3,600 seniors. The questionnaires are administered by the Survey Research Center staff, usually in classrooms.

Further information is available from the Monitoring the Future Study, and complete descriptive data from each survey of high school seniors is available from Institute for Social Research Publication Sales. The address for both is Institute for Social Research, University of Michigan, Ann Arbor, Michigan 48106.

Rand Corporation

Organized Teachers in American Schools

Funded primarily by the National Institute of Education and, in part, by the Assistant Secretary for Education, the study of noncompensation provisions was undertaken by the Rand Corporation's Policy Research Center in Educational Finance and Governance. The objective of the Rand study was to enhance understanding of the organizational consequences of teacher collective bargaining in school districts and individual schools. The research examines trends in the noncompensation aspects of collective bargaining, the factors responsible for these trends, the nature of the negotiations process itself, institutionalization of contractual provisions, and finally, dependence on past practice and political action as alternatives to collective bargaining.

The quantitative analysis of teacher contracts drew data from a national sample of school districts at two time periods, 1970 and 1975, and intensive field work in 15 of these districts. The purpose of the analysis was to determine what types of noncompensation provisions were included in teacher contracts and how they differed over time and across types of districts.

To answer these questions, information was extracted from a sample of 151 contracts on such topics as grievance procedures, class size and hours, supplementary classroom personnel, teacher evaluation, job security, teacher safety and student discipline, and teacher instructional policy committees. A telephone survey was then conducted to collect information on the national affiliation and organizational characteristics of collective-bargaining units. Secondary sources were used to gather aggregate data on demographic and socioeconomic characteristics of the school districts. Finally, information was extracted from State statutes and case law relevant to teacher collective bargaining.

Additional information is available from the Rand Corporation, Policy Research Center in Educational Finance and Governance, Santa Monica, CA 90406.

Definitions of Selected Terms

The following terms are defined as they generally apply in the text. Readers interested in more technical, detailed definitions should refer to the appropriate National Center for Education Statistics (NCES) Handbook.

Adult education: Courses and other organized educational activities taken by persons 17 years of age and over, other than courses taken by full-time students in programs leading toward a high school diploma or an academic degree and other than occupational programs of 6 months or more duration. The report includes all courses taken for credit by part-time students. Providers of instruction include public and private educational institutions, business and industry, governmental agencies, private community organizations, and tutors. (The definition applies specifically to data from the NCES Adult Education Participation Survey).

Aggregate United States: The 50 States, District of Columbia, and outlying areas—Puerto Rico, American Samoa, Guam, the Virgin Islands, the Trust Territory of the Pacific Islands, and the Northern Mariana Islands. Several NCES surveys report data for the aggregate United States. However, data pertain to the 50 States and the District of Columbia, unless otherwise noted.

Auxiliary enterprises (higher education): Services to students, faculty, or other staff for which a fee is charged that is directly related to, but not necessarily equal to, the cost of service (e.g., dormitories, food service, and student stores).

Average daily attendance: The aggregate days of attendance during a regular school term divided by the number of days school was in session. (This definition applies specifically to data collected by the National Center for Education Statistics, ELSEGIS surveys).

Bachelor's degree: A degree granted for the successful completion of a baccalaureate program of studies, usually requiring at least 4 years (or equivalent) of full-time college-level study.

College enrollment: Enrollment in a course that leads to a bachelor's, master's, professional, or doctorate degree, excluding vocational certification. (This definition applies specifically to data collected by the Bureau of the Census, Current Population Surveys).

Constant dollars: Dollar amounts that have been adjusted by means of price and cost indexes to eliminate inflationary factors and allow direct comparison across years.

Core current expenditures: Measure of total expenditures excluding transportation and food service costs, used in interstate comparisons.

Current dollars: Dollar amounts that have not been adjusted to compensate for inflation.

Direct expenditures: Payment to employees, suppliers, contractors, beneficiaries, and other final recipients of governmental payments, i.e., all expenditures other than intergovernmental expenditures. (This definition applies specifically to data collected by the Bureau of the Census, Government Finance Surveys).

Doctor's degree: An earned degree carrying the title of Doctor. The Doctor of Philosophy degree (Ph.D) is the highest academic degree, and requires mastery within a field of knowledge and demonstrated ability to perform scholarly research. Other doctorates are awarded for fulfilling specialized requirements in professional fields, such as education (Ed.D.), musical arts (D.M.A.), business administration (D.B.A.), and engineering (D.Eng. or D.E.S.). Many doctor's degrees in both academic and professional fields require an earned master's degree as a prerequisite. First-professional degrees, such as M.D. and D.D.S. are counted separately and are not included under this heading.

Dropouts: Persons not enrolled in school and not high school graduates. (This definition applies specifically to data collected by the Bureau of the Census, Current Population Surveys).

Expenditures: Charges incurred, whether paid or unpaid which are presumed to benefit the current fiscal year. For elementary/secondary schools, these include all charges for current outlays for education, plus capital outlays and interest on school debt. For institutions of higher education, these include current outlays plus capital outlays. For government, these include charges net of recoveries and other correcting transactions—other than for retirement of debt, investment in securities, extension of credit, or as agency transactions. Government expenditures include only external transactions, such as the provision of perquisites or other payments in kind. Aggregates for groups of governments exclude intergovernmental transactions among the governments.

Family: A unit consisting of a household head and one or more other persons living in the same household who are related to the head by blood, marriage, or adoption; all persons in a household who are related to the head are regarded as members of his (her) family.

First-professional degree: A degree that signifies both (a) completion of the academic requirements for beginning practice in a given profession and (b) a level of professional skill beyond that normally required for a bachelor's degree. This degree usually is based on a program requiring at least 2 academic years of work prior to entrance and a total of at least 6 academic years of work to complete the degree program, including both prior-required college work and the professional program itself. First-professional degrees are awarded in fields such as dentistry (D.D.S. or D.M.D.), medicine (M.D.), optometry (O.D.), osteopathic medicine (D.O.), podiatric medicine (D.P.M.), veterinary medicine (D.V.M.), law (J.D.), and the theological professions (M.Div. or M.H.L.).

First-time college students: Students not previously enrolled in any institution of higher education. (This definition applies specifically to data collected by the American Council of Education, Cooperative Institutional Research Program, National Freshman Norms Surveys).

Full-time instructional faculty (higher education): Those members of the staff of an educational institution who are employed on a full-time basis and whose major regular assignment is instruction.

Full-time students (higher education): Students enrolled in courses with total credit equal to at least 75 percent of the normal full-time course load.

Geographic regions: 1) Regions used by the U.S. Department of Commerce, Bureau of Economic Analysis and by the National Assessment of Educational Progress, as follows:

Northeast
- Connecticut
- Delaware
- District of Columbia
- Maine
- Maryland
- Massachusetts
- New Hampshire
- New Jersey
- New York
- Pennsylvania
- Rhode Island
- Vermont

Southeast
- Alabama
- Arkansas
- Florida
- Georgia
- Kentucky
- Louisiana
- Mississippi
- North Carolina
- South Carolina
- Tennessee
- Virginia
- West Virginia

Central
- Illinois
- Indiana
- Iowa
- Kansas
- Michigan
- Minnesota
- Missouri
- Nebraska
- North Dakota
- Ohio
- South Dakota
- Wisconsin

West
- Alaska
- Arizona
- California
- Colorado
- Hawaii
- Idaho
- Montana
- Nevada
- New Mexico
- Oklahoma
- Oregon
- Texas
- Utah
- Washington
- Wyoming

2) Regions and divisions used by the U.S. Department of Commerce, Bureau of the Census, in Current Population Survey tabulations, as follows:

Northeast

(New England)
- Maine
- New Hampshire
- Vermont
- Massachusetts
- Rhode Island
- Connecticut

(Middle Atlantic)
- New York
- New Jersey
- Pennsylvania

South

(South Atlantic)
- Delaware
- Maryland
- District of Columbia
- Virginia
- West Virginia
- North Carolina
- South Carolina
- Georgia
- Florida

(East South Central)
- Kentucky
- Tennessee
- Alabama
- Mississippi

(West South Central)
- Arkansas
- Louisiana
- Oklahoma
- Texas

North Central

(East North Central)
- Ohio
- Indiana
- Illinois
- Michigan
- Wisconsin

(West North Central)
- Minnesota
- Iowa
- Missouri
- North Dakota
- South Dakota
- Nebraska
- Kansas

West

(Mountain)
- Montana
- Idaho
- Wyoming
- Colorado
- New Mexico
- Arizona
- Utah
- Nevada

(Pacific)
- Washington
- Oregon
- California
- Alaska
- Hawaii

Higher education: Study beyond the secondary school level at an institution that offers programs terminating in an associate, baccalaureate, or higher degree.

Master's degree: An earned degree carrying the title of Master. One type of Master's degree—including the Master of Arts degree (M.A.) and the Master of Science degree (M.S.)—usually is awarded in the liberal arts and sciences for advanced scholarship in a subject field or discipline and demonstrated ability to perform scholarly research. A second type of master's degree is awarded for the completion of a professionally-oriented program (e.g., in education (M.Ed.), in business administration (M.B.A.), in fine arts (M.F.A.), in music (M.M.), in social work (M.S.W.), in public administration (M.P.A.), and in other fields). A third type of master's degree is awarded in professional fields for study beyond the first-professional degree (e.g., the Master of Laws (LL.M.) and Master of Science in various medical specializations).

Minimum competency testing: Measuring the acquisition of competence or skills to or beyond a certain specified standard.

Modal grade: The grade in which most children of a given age are enrolled.

Noncollegiate postsecondary school: An institution beyond the high school level that does not offer programs terminating in an associate, a baccalaureate, or a higher degree.

Preprimary program: A set of organized educational experiences for children attending prekindergarten and kindergarten classes including Head Start programs. Such programs may be offered by a public or nonpublic school or by some other agency. Custodial care in private homes is not included. (This definition applies specifically to data collected by the Bureau of the Census, Current Population Surveys).

Private control: Control by a nonpublic entity, that may be either nonprofit (i.e., tax-exempt) or proprietary.

Proprietary school: An educational institution that is under private control and whose profits derived from revenues are subject to taxation.

Public control: Control by a Federal, State, local, or other governmental agency.

Racial/ethnic group: Classification indicating general racial or ethnic heritage based on self-identification as in data collected by the Bureau of the Census or on observer identification as in data collected by the Office for Civil Rights. These categories are in accordance with the Office of Management and Budget standard classification scheme presented below:

White A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.

Black A person having origins in any of the black racial groups of Africa.

Hispanic A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.

Asian or Pacific Islander A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes, for example, China, India, Japan, Korea, the Philippine Islands, and Samoa.

American Indian or Alaskan Native A person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.

Regular day schools: State-approved elementary/secondary schools offering at least one grade beyond kindergarten, attended by students during a part of the day, as distinguished from residential schools. Not included in this category are residential schools for exceptional children, Federal schools for Indians, federally operated schools on Federal installations, and subcollegiate departments of institutions of higher education.

Revenues: All funds received from external sources, net of refunds and correcting transactions. Noncash transactions such as receipt of services, commodities, or other receipts "in kind" are excluded, as are funds received from the issuance of debt, liquidation of investments, and nonroutine sale of property.

School district: An educational agency at the local level that exists primarily to operate public schools or to contract for public school services. This term is used synonymously with the terms "local basic administrative unit" and "local education agency."

Student education expenditures (higher education): Expenditures for formal instruction and activities that are most closely related to instruction. Includes instruction and research that are part of regular instructional services (departmental research), extension and public service, libraries, physical plant operation and maintenance, general administration, and other sponsored activities.

Theil coefficient: A measure of disparity from the mean, calculated in the following manner when weighted by population:

$$\sum \frac{x_i}{u} \ln \frac{x_i}{u}$$

where: $u = \frac{\Sigma P_i x_i}{\Sigma P_i}$

P_i = Population

x_i = Calculated variable (per pupil core current expenditure, teachers per 1,000 students, etc.)

Underemployment: Full-time employment of a college graduate in a job that is not professional, technical, managerial, or administrative, and does not require a college degree according to the graduate. (This definition applies specifically to data collected by the National Center for Education Statistics, Recent College Graduate Surveys.)

Undergraduate students: Students registered at an institution of higher education who have not completed requirements for a bachelor's degree.

Unemployment rate: The number of unemployed persons seeking employment as a percent of the civilian labor force.

The Condition of Education

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Cumulative Index

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